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As filed with the Securities and Exchange Commission on January 5, 2024.

Registration No. 333–

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

Metagenomi Technologies, LLC
(to be succeeded by Metagenomi, Inc. in the reorganization)
(Exact name of registrant as specified in its charter)

Delaware	2836	83-2735153
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification No.)

Metagenomi Technologies, LLC
1545 Park Avenue
Emeryville, California 94608
(510) 871-4880
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Brian C. Thomas, Ph.D.
Chief Executive Officer
Metagenomi Technologies, LLC
1545 Park Avenue
Emeryville, California 94608
(510) 871-4880
(Name, address, including zip code, and telephone number, including area code, of agent for service)

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Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, as amended, check the following box. ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Securities Exchange Act of 1934.

Large Accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☐
		Emerging growth company	☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant files a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

Metagenomi Technologies, LLC, the registrant whose name appears on the cover of this registration statement, is a Delaware limited liability company. Prior to the effectiveness of this registration statement, Metagenomi Technologies, LLC will complete a series of transactions pursuant to which Metagenomi Technologies, LLC will merge with and into its wholly-owned subsidiary, Metagenomi, Inc., a Delaware corporation, with Metagenomi, Inc. continuing as the surviving corporation. We refer to this reorganization throughout the prospectus included in this registration statement as the “Reorganization.” Except as disclosed in the prospectus, the consolidated financial statements and summary consolidated financial data and other financial information included in this registration statement are those of Metagenomi Technologies, LLC and its subsidiaries and do not give effect to the Reorganization. Shares of the common stock of Metagenomi, Inc. are being offered by the prospectus included in this registration statement.

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The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the Securities and Exchange Commission declares our registration statement effective. This preliminary prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to completion, dated January 5, 2024

PRELIMINARY PROSPECTUS

Shares

Metagenomi

Common Stock

This is an initial public offering of shares of common stock of Metagenomi, Inc.

We are offering shares of our common stock. We expect that the initial public offering price will be between $ and $ per share.

Prior to this offering, there has been no public market for our common stock. We have applied to list our common stock on the Nasdaq Global Select Market under the symbol "MGX." We believe that upon the completion of this offering, we will meet the standards for listing on the Nasdaq Global Select Market, and the closing of this offering is contingent upon such listing.

We are an "emerging growth company" under the federal securities laws and, as such, we have elected to comply with certain reduced public company reporting requirements for this prospectus and for future filings.

	Per share	Total
Initial public offering price	$	$
Underwriting discounts and commissions(1)	$	$
Proceeds, before expenses, to Metagenomi, Inc.	$	$

(1) See "Underwriting" beginning on page 268 of this prospectus for additional information regarding underwriting compensation.

We have granted the underwriters an option for a period of 30 days to purchase an additional shares of our common stock from us at the initial public offering price, less underwriting discounts and commissions.

Investing in our common stock involves a high degree of risk. Before buying any shares, you should read carefully the discussion of the material risks of investing in our common stock under the heading "Risk Factors" starting on page 18 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities, or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The underwriters expect to deliver the shares against payment in New York, New York on , 2024.

J.P. Morgan Jefferies TD Cowen Wells Fargo Securities BMO Capital Markets

Chardan

Prospectus dated , 2024.

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We have not, and the underwriters have not, authorized anyone to provide any information or to make any representation other than those contained in this prospectus, any amendment or supplement to this prospectus or any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We and the underwriters take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the shares of common stock offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus, any amendment or supplement to this prospectus or any applicable free writing prospectus is current only as of its date, regardless of its time of delivery or any sale of shares of our common stock. Our business, financial condition, results of operations and prospects may have changed since that date.

For investors outside the United States: We have not, and the underwriters have not, done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside the United States.

Market data and certain other statistical information used throughout this prospectus are based on independent industry publications, governmental publications, reports by market research firms, or other independent sources that we believe to be reliable sources. Industry publications and third-party research, surveys, and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. We are responsible for all of the disclosure contained in this prospectus, and we believe that these sources are reliable; however, we have not independently verified the information contained in such publications. While we are not aware of any misstatements regarding any third-party information presented in this prospectus, their estimates, in particular, as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties, and are subject to change based on various factors, including those discussed under the section entitled “Risk Factors” and elsewhere in this prospectus. Some data are also based on our good faith estimates.

We intend to apply for various trademarks that we use in connection with the operation of our business. This prospectus may also contain trademarks, service marks and trade names of third parties, which are the property of their respective owners. Our use or display of third parties’ trademarks, service marks, trade names or products in this prospectus is not intended to, and does not imply a relationship with, or endorsement or sponsorship by us. Solely for convenience, the trademarks, service marks and trade names referred to in this prospectus may appear without the TM or SM symbols, but the omission of such references is not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the right of the applicable owner of these trademarks, service marks and trade names.

PROSPECTUS SUMMARY

This summary highlights information contained in greater detail elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our common stock, you should carefully read this entire prospectus, including our consolidated financial statements and the related notes thereto included elsewhere in this prospectus. You should also consider, among other things, the information set forth under the sections entitled "Risk Factors," "Special Note Regarding Forward-Looking Statements," and "Management's Discussion and Analysis of Financial Condition and Results of Operations," in each case included elsewhere in this prospectus.

Prior to the effectiveness of this registration statement, we will complete a series of transactions pursuant to which Metagenomi Technologies, LLC will merge with and into its wholly-owned subsidiary, Metagenomi, Inc., a Delaware corporation, with Metagenomi, Inc. continuing as the surviving corporation. See "Reorganization." Except where the context otherwise requires or where otherwise indicated, the terms "Metagenomi," "we," "us," "our," "our company," "the company," and "our business" refer, prior to the Reorganization discussed below, to Metagenomi Technologies, LLC and, after the Reorganization, to Metagenomi, Inc.

Overview

We are a precision genetic medicines company committed to developing curative therapeutics for patients using our proprietary, comprehensive metagenomics-derived genome editing toolbox. Genetic diseases are caused by a diverse set of mutations that have been largely inaccessible by genome engineering approaches to date. Genetic mutations are seen in a variety of forms, including deletions, insertions, single-base-pair changes and sequence repeats, and are found throughout the genome and across a variety of different cell types, tissues, and organ systems. Additionally, many diseases lack a genetic origin but have the potential to be effectively and permanently addressed through genome editing. We are harnessing the power of metagenomics, the study of genetic material recovered from the natural environment, to unlock four billion years of microbial evolution to discover and develop a suite of novel editing tools capable of correcting any type of genetic mutation found anywhere in the genome. Our comprehensive genome editing toolbox includes programmable nucleases, base editors, and RNA and DNA-mediated integration systems (including prime editing systems and clustered regularly interspaced short palindromic repeat ("CRISPR")-associated transposases ("CASTs")). We believe our diverse and modular toolbox positions us to access the entire genome and select the optimal tool to unlock the full potential of genome editing for patients.

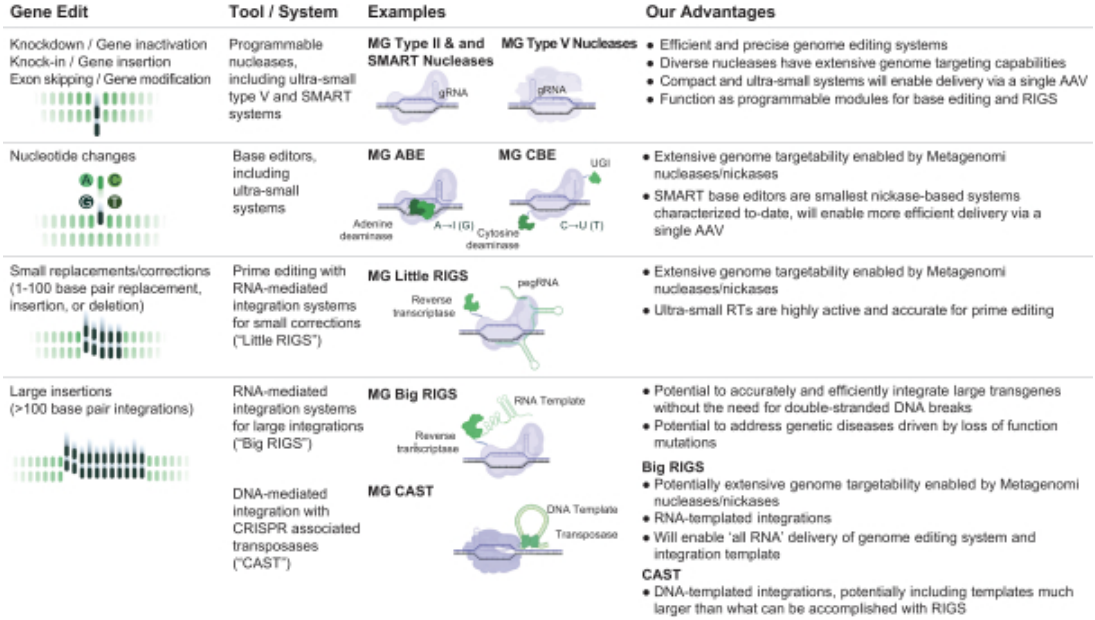
The company was founded by pioneers in the field of metagenomics, a powerful science that allows us to tap into the diversity of microbial life on this planet. The metagenomics process starts by collecting samples from microbe-rich ecosystems ranging from simple home gardens to extreme locations such as hydrothermal vents below the ocean. We then extract the DNA from these environmental samples and deeply sequence them to fully reconstruct the genomes of the resident microbes. Each sample may include thousands of distinct genomes from previously unknown organisms revealing novel cellular machinery that we utilize as building blocks for our editing systems. Using high-throughput screening, artificial intelligence ("AI"), and proprietary algorithms, we rapidly mine through billions of novel proteins from our genome-resolved metagenomics database to create genome editing tools. To date, we have analyzed over 460 trillion base pairs, predicted over 7.4 billion proteins, including over 322 million CRISPR-associated ("Cas") proteins and over 1.75 million CRISPRs, which we estimate has resulted in the identification of over 20,000 novel genome editing systems. Simultaneously, we have assembled extensive libraries of millions of nucleases, deaminases, reverse transcriptases ("RTs") and over one thousand CASTs. Our platform is designed to enable us to rapidly and

effectively find, screen, and select tools with the highest potential targetability, specificity, and efficiency in order to develop them into genetic medicines. The iterative nature of our process, underpinned by AI, allows us to continuously push the boundaries of innovation.

Our proprietary toolbox of editing systems

We have developed an expansive and modular toolbox of next-generation genome editing systems that will allow us to interact with the human genome in a site-specific manner, where each tool can be matched to specific disease targets. Figure 1 summarizes our diverse and versatile toolbox of different editing capabilities with the potential to address the full spectrum of genetic diseases.

Figure 1. Our Toolbox.



Our programmable nucleases are the backbone of our broad set of genome editing tools. These novel nucleases including type II and type V Cas nucleases, of which some are ultra-small systems that we call SMall Arginine-Rich sysTems ("SMART") nucleases, have unique targeting abilities and can be programmed by guide RNAs ("gRNA") to target and cut at specific locations in any genome sequence. Targeted genomic breaks trigger DNA repair pathways that can be used for genome editing, for example, to integrate a gene at a target site (knock-in) or for gene inactivation (knockdown).

Our toolbox contains thousands of CRISPR nucleases with diverse abilities to target different parts of the genome, allowing us to select the ideal nuclease for targeting any given gene in a site-specific manner and potentially overcome a major limitation of first-generation CRISPR/Cas9 systems.

We also modify our nucleases to either nick the genome (i.e., a nickase that cuts one strand of the DNA) or to simply bind to target sites (i.e., a nuclease dead variant). These capabilities (e.g., searching, cutting, nicking, and binding) can be leveraged as a chassis by adding on additional effector enzymes to create base editors for single nucleotide changes and RNA-mediated integration systems ("RIGS") for both small and large genomic

integrations using “Little RIGS” for prime editing and “Big RIGS” for large integrations. Using modular engineering, we match nickases with deaminases and RTs for base editing and RIGS, respectively. Furthermore, nucleases can be engineered by swapping the search modules of the enzyme to expand the targetability of the chassis, which is critical for site-specific genomic modifications. Given the measured targeting density of our toolbox, we believe that essentially any codon in the human genome could be addressed with our gene editing systems.

Our highly active nucleases have gone through extensive preclinical evaluation for both *in vivo* and *ex vivo* applications, with demonstration of broad potency of these systems across human primary cells, mouse, and nonhuman primate (“NHP”) models. Our base editors, RIGS, and CAST systems have demonstrated activity across various cell-based models. In addition to evaluating system activity, we have undertaken detailed characterization of guide-specific on- and off-target effects. We routinely identify guides that have no or minimal verifiable off-target editing, thus overcoming another limitation of first-generation CRISPR/Cas9 systems.

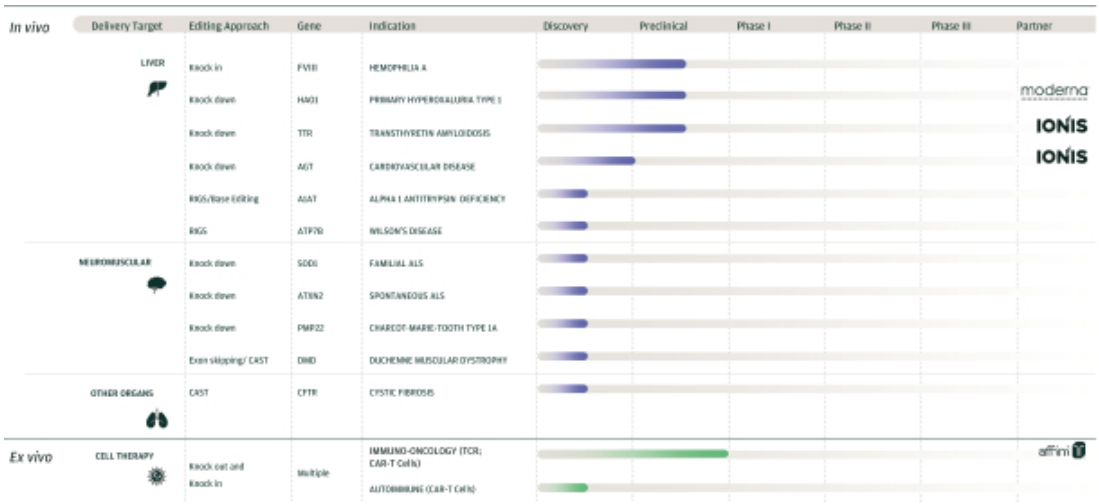
In addition to overcoming the activity, targetability, and specificity limitations of first-generation systems, our nuclease toolbox was designed to have broad compatibility with viral and nonviral delivery technologies. This compatibility is accomplished by having a variety of nuclease and gRNA structures, which range in terms of their size and biochemistry. For example, small guides for some type V Cas systems streamline manufacturing for delivery by lipid nanoparticle (“LNP”) approaches, and SMART nickases can be used to construct base editors that are small enough to fit within the packaging limitations of adeno-associated viruses (“AAV”). SpCas9, which is currently used in most base editing applications, is roughly three times the size of some of our smallest SMART nickases and cannot be efficiently packaged into a single AAV. Combined, we believe these features will facilitate delivery of our genome editing tools to previously inaccessible tissue types and organ systems.

While nucleases, base editors, and prime editors can precisely address a wide variety of genomic modifications required to treat disease, the fact that many diseases are caused by a multitude of mutations across a gene means that a diverse set of editing tools are required to fully address these patient populations. The integration of a complete and functional gene through targeted genome editing may provide a way in which every patient with a given disease could potentially be treated by a single genetic medicine. Big RIGS and CASTs are novel genome editing systems that are under development to achieve what has been a major challenge for the genome editing field—large, targeted genomic integrations. Initial preclinical readouts conducted in mammalian cells indicate that these systems could potentially have a major impact on how diseases caused by loss-of-function mutations, the most common cause of genetic diseases, can be addressed through genome editing.

Therapeutic translation roadmap and initial programs

We are taking a stepwise approach deploying our genome editing toolbox to develop potentially curative therapies for patients. Our lead programs are selected to both address important diseases and to establish new standards in targetability, precision, efficiency, and scope of editing capabilities. Figure 2 summarizes the portfolio of programs that we and our partners are advancing, as we aim to match the optimal genome editing tools for each indication. Each of these indications were chosen based on our conviction in the underlying biology, existence of validating preclinical and clinical data, availability of pharmacodynamic and translational tools to assess early proof-of-concept, relevant value supporting outcome measures, and ongoing clinical unmet need. While we do not currently have any approved products and all of our product candidates are preclinical, our lead programs capture an ever-growing set of translational learnings and insights that will inform and accelerate future programs.

Figure 2: Therapeutic Translation.



Hemophilia A—novel, durable, knock-in approach for expression of Factor VIII

Hemophilia A is the most common X-linked inherited bleeding disorder and is caused by mutations in the Factor VIII ("FVIII") gene leading to loss of functional FVIII protein that impacts the body's ability to form normal clots in response to injury. FVIII is normally produced in the liver within sinusoidal endothelial cells and is then secreted into the bloodstream where it acts as a cofactor for the catalytic activation of Factor X in the clotting pathway. The lack of functional FVIII disrupts the normal clotting cascade and predisposes patients to increased risk of bleeding, either spontaneously or in response to injury or surgery. Repeated bleeding episodes in joints or soft tissues can lead to progressive joint damage, inflammation, pain, and mobility impairment. Intracranial bleeding is of greatest concern as this can be rapidly fatal or lead to major morbidity.

Rather than provide the FVIII gene in an episomal location, which risks dilution from cell division or cell death as well as episomal transcriptional silencing, our approach is to insert a FVIII DNA cassette into a "safe harbor location," within an intron of the albumin gene that is not expected to have deleterious effects. FVIII expression is then driven by the strong native albumin promoter. This approach has previously been demonstrated in preclinical studies to lead to therapeutically relevant expression of a different clotting factor (Factor IX) with negligible impact to systemic circulating albumin levels. Our FVIII knock-in approach is designed to provide stable expression and clinically relevant circulating levels of FVIII, even at low integration rates because of the strength of the albumin promoter. We have demonstrated the feasibility of the FVIII gene knock-in approach in mice with several mouse specific guides and different FVIII DNA donor cassettes, with integration of the FVIII gene leading to FVIII mRNA expression and therapeutically relevant levels of FVIII protein in the blood. In an ongoing NHP study we demonstrated integration of a surrogate cynomolgus-FVIII cassette (used to avoid immune response that would occur with a foreign human FVIII protein) and observed therapeutically relevant levels of the cyno-FVIII protein encoded by the integrated cassette in all 3 treated animals that has extended for 4.5 months following a single dose of the AAV-cFVIII virus followed five weeks later by a liver trophic LNP encapsulating the mRNA encoding MG29-1 and guide 2 at a dose of 1mg/kg body weight. We intend to continue measuring FVIII levels in these monkeys up to the 12 month time point to generate a robust data set on durability.

Evaluation of different human FVIII donor DNA cassettes has been completed in mice resulting in the selection of 2 lead cassettes that will be compared in another NHP study, potentially leading to a development candidate selection anticipated in Q2 2024.

In parallel, we are manufacturing mRNA, gRNA, AAV and LNP to support future investigational new drug ("IND") enabling studies.

Primary Hyperoxaluria, Type 1 ("PH1")—a durable knockdown of HAO1 for substrate reduction therapy

PH1 is a rare autosomal recessive metabolic disease arising from loss of function mutations in the alanine-glyoxylate aminotransferase ("AGXT") gene that encodes alanine glyoxylate aminotransferase. This enzyme is found in peroxisomes of the liver where it catalyzes the conversion of glyoxylate to glycine and pyruvate. Lack of functional AGXT leads to an accumulation of glyoxylate substrate, which is then converted to oxalate and excreted in the kidney. The excess urinary oxalate forms an insoluble complex with urinary calcium that leads to the production of calcium oxalate crystal precipitates. This pathologic process results in the formation of repeated calcium oxalate urolithiasis and nephrolithiasis, which in turn leads to obstructive uropathy, inflammation, fibrosis, tubular toxicity, and progressive loss of kidney function. PH1 is a serious disease that causes kidney failure. More than 70% of individuals with PH1 mutations will develop end-stage renal disease, with a median age in young adulthood.

The goal of our genome editing approach is to durably knock down HAO1 resulting in stable and permanent reduction of oxalate levels to effect a lifelong benefit. We have performed nuclease and guide screening to select an optimal nuclease and gRNA combination. Along with our partner ModernaTX, Inc. ("Moderna"), we have achieved preclinical proof-of-concept in an AGXT knock-out mouse which is an accepted disease model of PH1. We are in the final stages of confirming the candidate to take into NHP studies and expect to have NHP data in 2024 to support final development candidate selection.

Transthyretin Amyloidosis—a single treatment to knockdown TTR gene expression

Transthyretin amyloidosis is a disease of misfolded and aggregated transthyretin ("TTR") protein that can deposit in tissues causing organ dysfunction, primarily in the heart and/or peripheral nerves. The TTR protein is normally produced in the liver and circulates in a homotetramer (four copies of the same TTR protein bound together) where it serves as a carrier protein for vitamin A and thyroxine. Certain mutations have been identified that can cause TTR homotetramers to fall apart, misfold, and aggregate into insoluble fibrils that deposit in cardiac tissue and peripheral nerves. However, more commonly, the normal aging process is associated with an increased propensity for TTR misfolding and aggregation in the heart without any known genetic sequence variation. These distinctions lead to TTR amyloidosis being characterized as either hereditary transthyretin amyloidosis ("ATTRv") caused by mutations in TTR, or wild-type ATTR amyloidosis ("ATTRwt"). It is estimated that globally there are approximately 50,000 patients with ATTRv and between 300,000 and 500,000 patients with ATTRwt. Among the larger ATTRwt patient population, the most common presentation is a rapidly progressive, restrictive, and hypertrophic cardiomyopathy due to progressive deposition of insoluble TTR fibrils, which result in thickening of the myocardium and stiffening of the ventricles. These pathologic processes lead to impaired diastolic function and progressive cardiomyopathy that typically leads to progressive heart failure and often death within three to five years from disease onset. Although cardiac manifestations are more common and severe, patients with neurologic manifestations also experience significant morbidity, loss of functionality, and impaired quality of life.

Using our novel nucleases, we aim to provide efficient TTR knockdown and halt further deposition of amyloid fibrils. Previous experience suggests a clinical correlation between the degree of TTR knockdown and potential

for benefit in familial forms of the disease, which are expected to translate similarly to wild type forms. The high degree of *in vivo* editing efficiency and specificity of our nuclease platform suggest the potential for a single treatment to knockdown TTR gene expression and remove the requirement for life-long therapy. Along with our partner Ionis Pharmaceuticals, Inc. ("Ionis"), we are currently in advanced stages of nuclease and guide selection, having achieved more than 90% knockdown of human TTR protein after a single dose in a humanized TTR mouse model, and expect to move into NHP studies in 2024.

Further areas of therapeutic activity and interest

In parallel with our translation efforts in our lead programs using our novel programmable nucleases to knock-in or knockdown gene expression in liver-associated targets, we are developing more complex editing systems for liver associated targets as well as moving beyond the liver. Given that our genome editing toolbox contains small editing systems designed to be amenable to viral vector delivery, and given the progress established in targeting the central nervous system and muscle with established AAV capsids, our first extrahepatic indications will be neurodegenerative and neuromuscular diseases.

Building on our experience delivering our nucleases to the liver via LNP systems, we are extending that experience delivering novel RIGS to the liver to potentially correct ATP7B mutations in Wilson's disease and PiZ mutations in alpha-1-antitrypsin deficiency ("A1AT deficiency"). We are also exploring addressing A1AT deficiency via a base editor approach given the predominant mutation involves a single base pair. Both of these liver diseases have well-defined biology, readily available translational biomarkers for early proof-of-concept, established development pathways based on prior drug approvals, and important unmet medical needs.

Building on our experience with our novel type II and type V programmable nucleases, we are extending that experience by working to deliver these nucleases via AAV to the central nervous system to potentially knockdown genetic targets important for both spontaneous and familial amyotrophic lateral sclerosis (SOD1, ATXN2) and Charcot-Marie-Tooth Type 1a (PMP22). In addition, we are working to address a series of mutations common in Duchenne Muscular Dystrophy with our programmable nucleases through exon skipping approaches. In diseases outside of the liver, we intend to initially leverage known biology and clinical validation achieved with RNA-targeted approaches like antisense and small interfering RNA ("siRNA") to advance more potent and definitive one-time genome editing treatments.

Building on our experience with both knock-in gene expression and smaller gene corrections with RIGS, we are progressing our larger RNA- and DNA-mediated integration systems to potentially provide a single curative approach to cystic fibrosis. As opposed to currently-available therapies limited to subsets of patients with individual mutations, we intend to deliver a full copy of a functional cystic fibrosis transmembrane conductance regulator ("CFTR") gene. This approach can similarly be pursued across many other diseases characterized by loss of function mutations.

Our Team

We have assembled a world-class team that is driven by a passion to create potentially curative genetic medicines through the discovery of novel genome editing technologies by harnessing the power of metagenomics. Key members of our executive and leadership team include:

- **Brian C. Thomas, Ph.D., Chief Executive Officer and Founder,** prior to co-founding the company, Dr. Thomas spent more than 20 years in academic research at UC Berkeley helping to pioneer the field of metagenomics. Dr. Thomas has been cited over 16,000 times and listed as an inventor in 28 patent families.
- **Jian Irish, Ph.D., MBA, President and Chief Operating Officer**, has held biopharma executive leadership roles for nearly 20 years at Kite Pharma / Gilead, Sanofi, and Amgen in drug development and global operations, and has helped launch several breakthrough medicines.

- **Pamela Wapnick, MBA, Chief Financial Officer,** has over 20 years of diversified financial leadership experience spanning strategic and operational finance roles at public and private companies including life sciences and biotechnology companies, Diality Inc, Capsida Biotherapeutics, True North Therapeutics and Amgen.
- **Sarah Noonberg, M.D., Ph.D., Chief Medical Officer**, has spent more than 20 years in translational and clinical development leadership roles with a track record of advancing therapeutic programs from discovery to commercialization, including at Medivation and BioMarin.
- **Simon Harnest, Chief Investment Officer and SVP of Strategy**, has held leadership roles in corporate finance and strategy in the life sciences sector, having raised over $1 billion in public and private capital, including leading Cellectis' U.S. IPO and subsequent spin-out and IPO of Calyxt.
- **Luis G. Borges, Ph.D., Chief Scientific Officer**, has over 27 years of experience in the biotechnology industry, including Amgen, Five Prime Therapeutics, Cell Medica, and Century Therapeutics, where he held leadership roles in the research and development of multiple therapeutic candidates.
- **Simren Delaney, Ph.D., LLM, VP of Legal,** is specialized in Intellectual Property and Patent law, having previously worked at Wilson Sonsini Goodrich & Rosati, and plays an instrumental role in driving the development of the company's growing IP portfolio.
- **Christopher T. Brown, Ph.D., VP of Discovery,** is a former scientist at the Jill F. Banfield laboratory at UC Berkeley and an expert in using metagenomics to discover novel microbial systems for use in genome editing. Dr. Brown's research has resulted in over 35 publications and over 20 patent family filings.
- **Michael Conway, MBA, CPA, VP of Finance**, has spent nearly 20 years in finance leadership positions at life science and technology companies, including Adamas Pharmaceuticals, InterMune, and Intel.
- **Alan Brooks, Ph.D., SVP of Preclinical**, has worked on genetic medicines providing scientific leadership in translational research for more than 25 years, including at Casebia Therapeutics and Bayer Healthcare. Dr. Brooks' research has led to 20 publications and numerous patent filings.

Our company is supported by our board of directors, Scientific Advisory Board, and a leading syndicate of investors, with more than 30 funds supporting our Series B and Series B-1 preferred unit financings.

Our Strategy

Our goal is to harness the power of our proprietary metagenomics platform to create curative genetic medicines for patients. Key components of our strategy to achieve this goal include:

- Leverage our leadership position in metagenomics to continually advance and expand innovative genome editing tools.
- Develop and deliver products that make precise modifications to the human genome to cure disease.
- Build a fully integrated genome editing company.
- Expand therapeutic impact to patients through continued investment in business development and enabling partnerships, including with our existing partners Moderna, Ionis, and Affini-T Therapeutics, Inc.
- Maintain our entrepreneurial outlook, scientifically rigorous approach, and culture of tireless commitment to patients.

Risks Associated with Our Business

- We have incurred significant losses since inception. We expect to incur losses for the foreseeable future and may never achieve or maintain profitability.
- We have never generated revenue from product sales and may never become profitable.
- We will need substantial additional funding in addition to the net proceeds we receive from this offering. If we are unable to raise additional capital when needed on acceptable terms, or at all, we may be forced to delay, reduce, or terminate certain research and product development programs, future commercialization efforts or other operations.
- We are very early in our development efforts, and we have not yet initiated IND-enabling studies or clinical development of any product candidate. As a result, we expect it will be many years before we commercialize any product candidate, if ever. If we are unable to advance our current or future product candidates into and through clinical trials, obtain regulatory approval and ultimately commercialize our product candidates or experience significant delays in doing so, our business will be materially harmed.
- We are subject to additional development challenges and risks due to the novel nature of our genome editing technology.
- Clinical drug development involves a lengthy and expensive process, with an uncertain outcome. Because genome editing is novel and the regulatory landscape that will govern our potential product candidates is uncertain and may change, we cannot predict the time and cost of obtaining regulatory approval, if we receive it at all, for our potential product candidates.
- The genome editing field is relatively new and is evolving rapidly. We are focusing our research and development efforts on genome editing using programmable nucleases, base editing, and RNA and DNA-mediated integration systems (including prime editors and Cas transposases), but other genome editing technologies may be discovered that provide significant advantages over such technologies, which could materially harm our business.
- If any of the product candidates we may develop or the delivery modes we rely on cause undesirable side effects, it could delay or prevent their regulatory approval, limit the commercial potential or result in significant negative consequences following any potential regulatory approval.
- Positive results from early preclinical studies of any product candidates we may develop are not necessarily predictive of the results of later preclinical studies and any future clinical trials of such product candidates. If we cannot replicate the positive results from our earlier preclinical studies of any product candidates we may develop in our later preclinical studies and future clinical trials, we may be unable to successfully develop, obtain regulatory approval for and commercialize such product candidates.
- We may find it difficult to enroll patients in our future clinical trials given the limited number of patients who have the diseases any product candidates we identify or develop are intended to target. If we experience delays or difficulties in the enrollment of patients in clinical trials, our clinical development activities and our receipt of necessary regulatory approvals could be delayed or prevented.
- Genetic therapies are novel, and any product candidates we develop may be complex and difficult to manufacture. We could experience delays in satisfying regulatory authorities or production problems that result in delays in our development programs, limit the supply of the product candidates we may develop or otherwise harm our business.

- We face significant competition in an environment of rapid technological change, and there is a possibility that our competitors may achieve regulatory approval before us or develop therapies that are safer or more advanced or effective than ours, which may harm our financial condition and our ability to successfully market or commercialize any product candidates we may develop.
- While we intend to seek designations for our potential product candidates with the U.S. Food and Drug Administration (the "FDA") and comparable foreign regulatory authorities that are intended to confer benefits such as a faster development process or an accelerated regulatory pathway, there can be no assurance that we will successfully obtain such designations. In addition, even if one or more of our potential product candidates are granted such designations, we may not be able to realize the intended benefits of such designations.
- Because we are developing product candidates in the field of genetic medicines in which there is little clinical experience, there is increased risk that the FDA, the European Medicines Agency or other regulatory authorities may not consider the endpoints of our clinical trials to provide clinically meaningful results and that these results may be difficult to analyze.
- If preclinical studies or clinical trials of any product candidates we may identify and develop fail to demonstrate safety and efficacy to the satisfaction of regulatory authorities or do not otherwise produce positive results, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of such product candidates.
- Even if we complete the necessary clinical trials, we cannot predict when, or if, we will obtain regulatory approval to commercialize a product candidate we may develop in the United States or any other jurisdiction, and any such approval may be for a more narrow indication than we seek.
- If conflicts arise between us and our collaborators or strategic partners, these parties may act in a manner adverse to us and could limit our ability to implement our strategies.
- We have entered into collaborations, and may enter into additional collaborations, with third parties for the research, development, manufacture and commercialization of programs or product candidates. If these collaborations are not successful, our business could be adversely affected.
- Our collaborators and strategic partners may control aspects of our clinical trials, which could result in delays and other obstacles in the commercialization of our proposed products and materially harm our results of operations.
- Our future success depends on our ability to retain our Chief Executive Officer and other key executives and to attract, retain, and motivate qualified personnel.
- Our commercial success depends on our ability to obtain, maintain, enforce, and otherwise protect our intellectual property and proprietary technology, and if the scope of the intellectual property protection obtained is not sufficiently broad, our competitors or other third parties could develop and commercialize products and product candidates similar to ours and our ability to successfully develop and commercialize our genome editing systems may be adversely affected.
- Intellectual property rights do not necessarily address all potential threats to our business.

Corporate Information

We commenced our current operations and converted to a Delaware limited liability company in September 2018. We were originally founded as Metagenomi.co, a Delaware corporation, in September 2016. Prior to the

effectiveness of this registration statement, we intend to engage in a series of transactions, which we refer to collectively as the Reorganization. As a result of the Reorganization, Metagenomi Technologies, LLC will merge with and into its wholly-owned subsidiary, Metagenomi, Inc., a Delaware corporation, with Metagenomi, Inc. continuing as the surviving corporation. In connection with the Reorganization, (i) all of the outstanding common unitholders of Metagenomi Technologies, LLC will receive shares of common stock of Metagenomi, Inc., (ii) all of the outstanding preferred unitholders of Metagenomi Technologies, LLC will receive shares of preferred stock of Metagenomi, Inc. and (iii) all of the outstanding holders of profits interest units in Metagenomi Technologies, LLC will receive shares of common stock and restricted common stock in Metagenomi, Inc. as determined by the applicable provisions of the Metagenomi Technologies, LLC operating agreement in effect immediately prior to the Reorganization. Immediately prior to the completion of this offering, all outstanding shares of preferred stock of Metagenomi, Inc. will be converted into shares of common stock.

Metagenomi, Inc. will become the registrant for purposes of this offering, and our consolidated financial statements will be reported from Metagenomi, Inc. See “Reorganization” and “Description of Capital Stock” for additional information, including a description of the terms of our capital stock following the Reorganization and the terms of our amended and restated certificate of incorporation and amended and restated bylaws that will be in effect upon the completion of this offering.

Our principal executive offices are located at 1545 Park Avenue Emeryville, California 94608, and our telephone number is (510) 871-4880.

Our website address is https://www.metagenomi.co. The information contained in or accessible from our website is not incorporated into this prospectus, and you should not consider it part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

Implications of Being an Emerging Growth Company

We qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, as amended (the “JOBS Act”). As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

- being permitted to present only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced “Management’s discussion and analysis of financial condition and results of operations” disclosure in this prospectus;
- reduced disclosure about our executive compensation arrangements;
- not being required to hold advisory votes on executive compensation or to obtain stockholder approval of any golden parachute arrangements not previously approved;
- an exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002; and
- an exemption from compliance with the requirements of the Public Company Accounting Oversight Board regarding the communication of critical audit matters in the auditor’s report on the financial statements.

We may take advantage of these exemptions for up to five years or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company on the date that is the earliest of

(i) the last day of the fiscal year in which we have total annual gross revenues of $1.235 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of this offering; (iii) the date on which we have issued more than $1.0 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission (the "SEC"). We may choose to take advantage of some but not all of these exemptions. We have taken advantage of reduced reporting requirements in this prospectus. Accordingly, the information contained herein may be different from the information you receive from other public companies in which you hold stock. Additionally, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to avail ourselves of this exemption and, therefore, while we are an emerging growth company we will not be subject to new or revised accounting standards at the same time that they become applicable to other public companies that are not emerging growth companies. As a result of this election, our financial statements may not be comparable to those of other public companies that comply with new or revised accounting pronouncements as of public company effective dates. We may choose to early adopt any new or revised accounting standards whenever such early adoption is permitted for private companies.

THE OFFERING

Shares of common stock offered by us	shares.
Shares of our common stock to be outstanding after this offering	shares (or shares if the underwriters exercise their option to purchase additional shares in full).
Underwriters' option to purchase additional shares	We have granted the underwriters a 30-day option to purchase up to additional shares of our common stock at the initial public offering price, less underwriting discounts and commissions on the same terms as set forth in this prospectus.
Use of proceeds	We estimate that the net proceeds to us from the sale of shares of our common stock in this offering will be approximately $ million, or $ million if the underwriters exercise their option to purchase additional shares in full, assuming an initial public offering price of $ per share, the estimated midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds of this offering, together with our existing cash and cash equivalents and available-for-sale marketable securities, to and for general corporate purposes. See "Use of Proceeds."
Proposed Nasdaq Global Select Market symbol	We have applied to list our common stock on the Nasdaq Global Select Market under the symbol "MGX." The closing of this offering is contingent upon such listing.
Risk factors	Investment in our common stock involves substantial risks. You should read this prospectus carefully, including the section entitled "Risk Factors" and the consolidated financial statements and the related notes to those statements included in this prospectus, before investing in our common stock.

The number of shares of our common stock outstanding after this offering assumes the Reorganization takes place prior to the effectiveness of this registration statement and is based on shares of our common stock (including shares of unvested restricted common stock) issued in exchange for common units and profits interests outstanding as of September 30, 2023, and after giving effect to the conversion of shares of our redeemable convertible preferred stock, issued in connection with the Reorganization in exchange for redeemable convertible preferred units outstanding as of September 30, 2023, into an equivalent number of shares of our common stock immediately prior to the completion of this offering:

The number of shares of common stock to be outstanding after this offering excludes:

- shares of common stock reserved for future issuance under our 2024 Stock Option and Incentive Plan, which will become effective on the date immediately prior to execution of the underwriting agreement related to this offering; and

- shares of common stock reserved for future issuance under our 2024 Employee Stock Purchase Plan, which will become effective immediately prior to execution of the underwriting agreement related to this offering.

Except as otherwise noted, all information in this prospectus:

- assumes no vesting of the restricted common stock described above;
- assumes no exercise of the underwriters' option to purchase up to additional shares of common stock in this offering;
- assumes the filing of our amended and restated certificate of incorporation and the effectiveness of our amended and restated bylaws, which will occur upon the closing of this offering; and
- assumes a -for- reverse stock split of our common stock effected on , 2024.

SUMMARY CONSOLIDATED FINANCIAL DATA

The following tables present the summary consolidated financial data for Metagenomi Technologies, LLC and its consolidated subsidiary. You should read the following summary consolidated financial data together with our consolidated financial statements and the related notes appearing elsewhere in this prospectus and the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of this prospectus. We have derived the consolidated statements of operations for the years ended December 31, 2022 and 2021 from our audited consolidated financial statements appearing elsewhere in this prospectus. The consolidated statements of operations for the nine months ended September 30, 2023 and 2022 and the consolidated balance sheet data as of September 30, 2023 have been derived from our unaudited condensed consolidated financial statements appearing elsewhere in this prospectus, which have been prepared on the same basis as the audited consolidated financial statements. In the opinion of management, the unaudited data reflect all adjustments, consisting only of normal recurring adjustments, necessary for a fair statement of the financial information in those statements. Our historical results are not necessarily indicative of the results that may be expected in any future period. The summary consolidated financial data included in this section are not intended to replace the consolidated financial statements and the related notes included elsewhere in this prospectus.

	Year Ended December 31,		Nine Months Ended September 30,	
	2021	2022	2022	2023
			(in thousands, except share and per share data)	
Consolidated Statements of Operations Data:				
Collaboration revenue	$ 243	$ 17,200	$ 11,605	$ 32,357
Operating expenses:				
Research and development	14,478	43,139	28,082	69,648
General and administrative	9,712	18,701	12,397	21,005
Total operating expenses	24,190	61,840	40,479	90,653
Loss from operations	(23,947)	(44,640)	(28,874)	(58,296)
Other income (expense):				
Interest expense	(302)	(98)	(98)	—
Interest income	43	3,419	1,489	11,836
Change in fair value of long-term investments	2,760	94	94	2,870
Other income (expense), net	4	201	146	(70)
Total other income	2,505	3,616	1,631	14,636
Net loss before provision for income taxes	(21,442)	(41,024)	(27,243)	(43,660)
Provision for income taxes	—	(2,569)	(1,723)	(5,301)
Net loss	$ (21,442)	$ (43,593)	$ (28,966)	$ (48,961)
Net loss per unit attributable to common unitholders, basic and diluted(1)	$ (3.77)	$ (7.34)	$ (4.88)	$ (8.23)
Weighted-average common units outstanding, basic and diluted(1)	5,691,431	5,938,654	5,935,673	5,947,500
Pro forma net loss per share attributable to common stockholders, basic and diluted (unaudited)(2)		$		$
Pro forma weighted-average common stock outstanding, basic and diluted (unaudited)(2)				

(1) See Note 16 to our audited consolidated financial statements and Note 14 to our unaudited condensed consolidated financial statements included elsewhere in this prospectus for details on the calculation of basic and diluted net loss per unit attributable to common unitholders.
(2) See “Unaudited Pro Forma Net Loss Per Share Attributable to Common Stockholders” subsection below for details on our unaudited pro forma calculations.

Unaudited Pro Forma Net Loss Per Share Attributable to Common Stockholders

The unaudited pro forma basic and diluted net loss per share attributable to common stockholders for the year ended December 31, 2022 and for the nine months ended September 30, 2023 has been computed to give effect to (i) the Reorganization, (ii) the conversion of and shares of our redeemable convertible preferred stock outstanding as of December 31, 2022 and September 30, 2023, respectively, into an equivalent number of shares of our common stock as if such conversion occurred on January 1, 2022 and (iii) the filing and effectiveness of our amended and restated certificate of incorporation that will be in effect immediately prior to

the completion of this offering. The unaudited pro forma net loss attributable to common stockholders gives effect to the adjustments described below. The unaudited pro forma net loss per share attributable to common stockholders, basic and diluted, does not include the effect of the shares of our common stock expected to be sold in this offering.

The following table sets forth the computation of the unaudited pro forma basic and diluted net loss per share assuming the offering is completed on January 1, 2022:

	Year Ended December 31, 2022 (unaudited)	Nine Months Ended September 30, 2023 (unaudited)
	(in thousands, except share and per share data)	
Numerator:		
Net loss	$ (43,593)	$ (48,961)
Denominator:		
Weighted-average common units outstanding, basic and diluted	5,938,654	5,947,500
Pro forma adjustment to reflect the issuance of common stock in exchange for common units in connection with the Reorganization(1)		
Pro forma adjustment to reflect the issuance of common stock in exchange for vested profits interests in connection with the Reorganization(1)		
Pro forma adjustment to reflect the conversion of redeemable convertible preferred stock issued in connection with the conversion of the redeemable convertible preferred units from the Reorganization into common stock(2)		
Pro forma weighted-average common shares outstanding, basic and diluted (unaudited)		
Pro forma net loss per share attributable to common stockholders, basic and diluted (unaudited)	$	$

(1) Reflects the exchange of (i) 5,947,500 common units for shares of our common stock and (ii) vested profits interests for shares of our common stock in connection with the Reorganization, as if such exchange had occurred on January 1, 2022.

(2) Reflects the conversion of shares of our redeemable convertible preferred stock, issued in connection with the Reorganization in exchange for redeemable convertible preferred units, into an equivalent number of shares of our common stock, as if such conversion had occurred on January 1, 2022.

	As of September 30, 2023		
	Actual	Pro Forma(1)	Pro Forma As Adjusted(2)
		(in thousands)	
Condensed Consolidated Balance Sheet Data:			
Cash and cash equivalents	$ 101,897	$	$
Available-for-sale marketable securities	191,030		
Working capital(3)	231,221		
Total assets	386,433		
Total liabilities	154,696		
Redeemable convertible preferred units	350,758		
Redeemable convertible preferred stock	—		
Accumulated deficit	(125,650)		
Total members'/shareholders' equity (deficit)	(119,021)		

(1) The consolidated pro forma balance sheet data gives effect to (i) the Reorganization, (ii) the conversion of shares of our redeemable convertible preferred stock, issued in connection with the Reorganization in exchange for redeemable convertible preferred units outstanding as of September 30, 2023, into an equivalent number of shares of our common stock immediately prior to the closing of this offering, and (iii) the filing and effectiveness of our amended and restated certificate of incorporation upon the closing of this offering.

(2) The pro forma as adjusted consolidated balance sheet data gives effect to the pro forma adjustments set forth in footnote (1) above and our issuance and sale of shares of our common stock offered in this offering at an assumed initial public offering price of $ per share, which is the estimated midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. The pro forma as adjusted information set forth in the table above is illustrative only and will be adjusted based on the actual initial public offering price and other terms of this offering as determined at pricing.

(3) We define working capital as current assets less current liabilities. See our consolidated financial statements included elsewhere in this prospectus for further details regarding our current assets and current liabilities.

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the estimated midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the pro forma as adjusted amount of each of our cash and cash equivalents, working capital, total assets, and total members'/shareholders' equity (deficit) by $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each increase or decrease of 1,000,000 shares in the number of shares offered by us as set forth on the cover page of this prospectus, would increase or decrease, as applicable, the pro forma as adjusted amount of each of cash and cash equivalents, working capital, total assets, and total members'/shareholders' equity (deficit) by $ million, assuming no change in the assumed initial public offering price per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below together with all of the other information contained in this prospectus, including our consolidated financial statements and related notes appearing at the end of this prospectus, before deciding to invest in our common stock. If any of the events or developments described below were to occur, our business, prospects, operating results and financial condition could suffer materially, the trading price of our common stock could decline and you could lose all or part of your investment. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may also adversely affect our business.

Risks Related to Financial Position and Need for Capital

We have incurred significant losses since inception. We expect to incur losses for the foreseeable future and may never achieve or maintain profitability.

Since inception, we have incurred significant operating losses. Our net loss was $21.4 million and $43.6 million for the years ended December 31, 2021 and 2022, and $29.0 million and $49.0 million for the nine months ended September 30, 2022 and 2023, respectively. As of September 30, 2023, we had an accumulated deficit of $125.7 million. We have financed our operations primarily through issuing redeemable convertible preferred units and convertible promissory notes and entering into collaboration agreements. Substantially all of our losses have resulted from expenses incurred in connection with our research and development and from general and administrative costs associated with our operations. We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. The net losses we incur may fluctuate significantly from quarter to quarter. We anticipate that our expenses will increase substantially if and as we:

- advance our current research activities and further develop our platform;
- continue preclinical development and initiate clinical trials for any product candidates we may identify;
- seek regulatory approval for any product candidates for which we successfully complete clinical trials;
- establish our manufacturing capabilities, including internal manufacturing facilities and contracting with other vendors;
- ultimately, commercialize our future product candidates requiring significant marketing, sales, and distribution infrastructure expenses;
- hire additional research and development, clinical, commercial, general and administration personnel;
- develop, maintain, expand, protect, and enforce our intellectual property portfolio;
- acquire or in-license product candidates, intellectual property and technologies;
- confirm, maintain or obtain freedom to operate for any of our owned or licensed technologies and product candidates;
- establish and maintain collaborations;
- add operational, financial and management information systems and personnel; or
- incur additional legal, audit, accounting, compliance, insurance, investor relations and other expenses to operate as a public company that we did not incur as a private company.

As a result, we will need substantial additional funding to support our continuing operations and pursue our growth strategy. Until such time as we can generate significant revenue from product sales, if ever, we expect to finance our operations through the sale of equity, debt financings, or other capital sources, which may include collaborations with other companies or other strategic transactions. We may be unable to raise additional funds or enter into such other agreements or arrangements when needed on favorable terms, or at all. If we fail to raise capital or enter into such agreements as and when needed, we may have to significantly delay, reduce or eliminate the development and commercialization of our platform or delay our pursuit of potential in-licenses or acquisitions.

We have not initiated clinical development of any potential product candidate and expect that it will be many years, if ever, before we have a product candidate ready for commercialization. To become and remain profitable, we must develop and, either directly or through collaborators, eventually commercialize a therapy or therapies with market potential. This will require us to be successful in a range of challenging activities, including identifying product candidates, completing preclinical studies and clinical trials of product candidates, obtaining regulatory approval for these product candidates, manufacturing, marketing and selling those therapies for which we may obtain regulatory approval and satisfying any post-marketing requirements. We may never succeed in these activities and, even if we do, may never generate revenues that are significant or large enough to achieve profitability.

Because of the numerous risks and uncertainties associated with developing our technology and any potential product candidates, we are unable to predict the extent of any future losses or when we will become profitable, if at all. If we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would decrease the value of our company and could impair our ability to raise capital, maintain our research and development efforts, expand our business or continue our operations. A decline in the value of our company could also cause you to lose all or part of your investment.

We have never generated revenue from product sales and may never become profitable.

Our ability to generate revenue from product sales and achieve profitability depends on our ability, alone or with collaborative partners, to successfully complete the development of, and obtain the regulatory approvals necessary to commercialize, product candidates we may identify for development. We may not generate revenues from product sales for many years, if ever. Our ability to generate future revenues from product sales depends heavily on our or our collaborators' ability to successfully:

- identify product candidates and successfully complete research development of any product candidates we may identify;
- seek and obtain regulatory approvals for any product candidates for which we successfully complete clinical trials;
- launch and commercialize any product candidates for which we may obtain regulatory approval by establishing a sales force, marketing and distribution infrastructure, or alternatively, collaborating with a commercialization partner;
- qualify for adequate coverage and reimbursement by government and third-party payors for any product candidates for which we may obtain regulatory approval;
- establish and maintain supply and manufacturing relationships with third parties that can provide adequate, in both amount and quality, products and services to support clinical development and the market demand for any product candidates for which we obtain regulatory approval;

- develop, maintain and enhance a sustainable, scalable, reproducible and transferable manufacturing process for the product candidates we may develop;
- address competing technological and market developments;
- negotiate favorable terms in any collaboration, licensing or other arrangements into which we may enter and performing our obligations in such collaborations;
- receive market acceptance by physicians, patients, healthcare payors, and others in the medical community;
- maintain, protect, enforce, defend and expand our portfolio of intellectual property and other proprietary rights, including patents, trade secrets and know-how;
- defend against third-party intellectual property claims of infringement, misappropriation or other violation; and
- attract, hire and retain qualified personnel.

Our expenses could increase beyond expectations if we are required by the U.S. Food and Drug Administration (the "FDA") or other regulatory authorities to perform preclinical studies or clinical trials in addition to those that we currently anticipate. Even if one or more of the product candidates we may develop are approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product candidate. Additionally, such products may become subject to unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives. Even if we are able to generate revenues from the sale of any approved product candidates, we may not become profitable and may need to obtain additional funding to continue operations.

We will need substantial additional funding in addition to the net proceeds we receive from this offering. If we are unable to raise additional capital when needed on acceptable terms, or at all, we may be forced to delay, reduce, or terminate certain of our research and product development programs, future commercialization efforts or other operations.

Developing gene editing products, including conducting preclinical studies and clinical trials, is a very time-consuming, expensive and uncertain process that takes years to complete. Our operations have consumed substantial amounts of cash since inception, and we expect our expenses to increase in connection with our ongoing activities, particularly as we identify, continue the research and development of, initiate and conduct clinical trials of, and seek regulatory approval for, any product candidates we may identify. In addition, if we obtain regulatory approval for any product candidates we may identify, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing, and distribution to the extent that such sales, marketing, manufacturing, and distribution are not the responsibility of a collaborator. Other unanticipated costs may also arise. Furthermore, upon the closing of this offering, we expect to incur additional costs associated with operating as a public company. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on acceptable terms, we would be forced to delay, reduce, or eliminate our research and product development programs, future commercialization efforts or other operations.

As of September 30, 2023, our cash, cash equivalents and available-for-sale marketable securities were $292.9 million. We expect that the net proceeds from this offering, together with our existing cash, cash equivalents, and available-for-sale marketable securities, will enable us to fund our operating expenses and capital expenditure requirements into . However, our operating plan may change as a result of factors currently unknown to us, and we may need to seek funding sooner than planned. Our future capital requirements will depend on many factors, including:

- the timing and progress of research and development, preclinical and clinical development activities;

- the number, scope and duration of clinical trials required for regulatory approval of our future product candidates;
- the costs, timing, and outcome of regulatory review of any of our future product candidates;
- the costs of manufacturing clinical and commercial supplies of our future product candidates;
- the costs and timing of future commercialization activities, including product manufacturing, marketing, sales and distribution, for any of our future product candidates for which we receive regulatory approval;
- the costs of preparing, filing and prosecuting our patent applications, maintaining and enforcing our patents and other intellectual property rights and defending intellectual property-related claims;
- our ability to maintain existing, and establish new, strategic collaborations, licensing or other arrangements, and the financial terms of any such agreements, including the timing and amount of any future milestone, royalty or other payments due under any such agreement;
- our ability to establish and maintain collaboration and license agreements on favorable terms, if at all;
- the extent to which we acquire or in-license other product candidates and technologies;
- any product liability or other lawsuits related to our future product candidates;
- our implementation of various computerized informational systems and efforts to enhance operational systems;
- expenses incurred to attract, hire and retain skilled personnel;
- the costs of operating as a public company;
- our ability to establish a commercially viable pricing structure and obtain approval for coverage and adequate reimbursement from third-party and government payers;
- the extent to which we acquire or invest in businesses, products, and technologies;
- the effect of competing technological and market developments; and
- the impact of the COVID-19 pandemic, as well as other factors, including economic uncertainty and geopolitical tensions, which may exacerbate the magnitude of the factors discussed above.

Identifying potential product candidates and conducting preclinical testing and clinical trials is a time-consuming, expensive, and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain regulatory approval and achieve product sales. In addition, our future product candidates, if approved, may not achieve commercial success. Our commercial revenues, if any, will be derived from sales of products that we do not expect to be commercially available for many years, if at all. Accordingly, we will need to continue to rely on additional financing to achieve our business objectives. Adequate additional financing may not be available to us on acceptable terms, or at all. In addition, we may seek additional capital due to favorable market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures, declaring dividends, and possibly other restrictions.

Any additional fundraising efforts may divert our management from their day-to-day activities, which may adversely affect our ability to develop and commercialize our product candidates. We have no committed sources of additional capital and, if we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of our future product candidates or other research and development initiatives. Without sufficient funding, our license agreements and any future collaboration agreements may also be terminated if we are unable to meet the payment or other obligations under such agreements.

If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce, or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves. Additionally, if we raise funds through additional collaborations, strategic alliances, or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs, or product candidates we develop, or we may have to grant licenses on terms that may not be favorable to us and/or that may reduce the value of our common stock.

Our short operating history may make it difficult for you to evaluate the success of our business to date and to assess our future viability.

We are an early-stage company. We commenced our operations in September 2018. Our operations to date have been limited to organizing and staffing our company, business planning, raising capital, and research and development activities such as acquiring and developing our platform and technology and identifying and beginning to advance preclinical testing of potential product candidates. All of our programs are still in the research or lead optimization stage of development and their risk of failure is high. We have not yet demonstrated an ability to initiate or successfully complete any clinical trials, including large-scale, pivotal clinical trials, obtain regulatory approvals, manufacture a commercial-scale therapy, arrange for a third party to do so on our behalf or conduct sales and marketing activities necessary for successful commercialization.

Our limited operating history, particularly in light of the rapidly evolving genome editing field, may make it difficult to evaluate our technology and industry and predict our future performance. Our short history as an operating company makes any assessment of our future success or viability subject to significant uncertainty. We will encounter risks and difficulties frequently experienced by very early stage companies in rapidly evolving fields. If we do not address these risks successfully, our business will suffer.

In addition, as a new business that is rapidly growing, we may encounter other unforeseen expenses, difficulties, complications, and delays in our product development. We will need to transition from a company with a research focus to a company capable of conducting clinical trials and ultimately supporting commercial activities if any of our future product candidates are approved. We may not be successful in such a transition.

Our future ability to utilize our net operating loss carryforwards and certain other tax attributes may be limited.

Since our inception, we have incurred losses and we may never achieve profitability. As of December 31, 2022, we had U.S. federal net operating loss carryforwards of $0.02 million (which are not subject to expiration) and state net operating loss carryforwards of $8.3 million (which begin to expire in various amounts in 2037), and $2.8 million of research credit carryforwards for state income tax purposes (which do not expire and can be carried forward indefinitely). To the extent that we continue to generate taxable losses, under current law, our unused U.S. federal net operating losses (“NOLs”) may be carried forward to offset a portion of future taxable income, if any. Additionally, we continue to generate business tax credits, including research and development tax credits, which generally may be carried forward to offset a portion of future taxable income, if any, subject

to expiration of such credit carryforwards. Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the "Code"), if a corporation undergoes an "ownership change," generally defined as one or more shareholders or groups of shareholders who own at least 5 percent of the corporation's equity increasing their equity ownership in the aggregate by more than 50 percentage points (by value) over a three-year period, the corporation's ability to use its pre-change NOLs and other pre-change tax attributes (such as research and development tax credits) to offset its post-change income or taxes may be limited. Similar rules may apply under state tax laws. Our prior equity offerings and other changes in our stock ownership have resulted in such ownership changes in the past. In addition, we may experience ownership changes in the future as a result of this offering or subsequent shifts in our stock ownership, some of which are outside of our control. As a result, if we earn net taxable income, our ability to use our pre-change NOLs or other pre-change tax attributes to offset U.S. federal taxable income may be subject to limitations, which could potentially result in increased future tax liability to us. Additional limitations on our ability to utilize our NOLs to offset future taxable income may arise as a result of our corporate structure whereby NOLs generated by our subsidiary may not be available to offset taxable income earned by our subsidiary. There is a risk that due to changes under the tax law, regulatory changes or other unforeseen reasons, our existing NOLs or business tax credits could expire or otherwise be unavailable to offset future income tax liabilities. At the state level, there may also be periods during which the use of NOLs or business tax credits is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed. For these reasons, we may not be able to realize a tax benefit from the use of our NOLs or tax credits, even if we attain profitability.

Changes in tax laws or in their implementation or interpretation may adversely affect our business and financial condition.

The rules dealing with U.S. federal, state and local income taxation are constantly under review by persons involved in the legislative process and by the Internal Revenue Service and the U.S. Treasury Department. Changes to tax laws (which changes may have retroactive application) could adversely affect our business and our financial condition. In recent years, many such changes have been made and changes are likely to continue to occur in the future. We cannot predict whether, when, in what form or with what effective dates, tax laws, regulations and rulings may be enacted, promulgated or decided or whether they could increase our tax liability or require changes in the manner in which we operate in order to minimize increases in our tax liability.

Risks Related to Business, Technology, and Industry

We are very early in our development efforts, and we have not yet initiated IND-enabling studies or clinical development of any product candidate. As a result, we expect it will be many years before we commercialize any product candidate, if ever. If we are unable to advance our future product candidates into and through clinical trials, obtain regulatory approval and ultimately commercialize our product candidates or experience significant delays in doing so, our business will be materially harmed.

We are very early in our development efforts and have focused our research and development efforts to date on research efforts including preclinical studies. Currently, all of our programs are still in the research or lead optimization stage of development. Our ability to generate product revenues, which we do not expect will occur for many years, if ever, will depend heavily on the successful development, regulatory approval and eventual commercialization of our future product candidates, which may never occur. We have not yet generated revenue from product sales, and we may never be able to develop or commercialize a marketable product.

Commencing clinical trials in the United States is subject to acceptance by the FDA of an investigational new drug ("IND") application and finalizing the trial design based on discussions with the FDA. In the event that the FDA requires us to complete additional preclinical studies or we are required to satisfy other FDA requests prior

to commencing clinical trials, the start of our first clinical trials may be delayed or we may be unsuccessful obtaining clearance to proceed into clinical development. Even after we receive and incorporate guidance from the FDA, the FDA could disagree that we have satisfied their requirements to commence any clinical trial or change their position on the acceptability of our trial design or the clinical endpoints selected, which may require us to complete additional preclinical studies or clinical trials, delay the enrollment of our clinical trials, abandon our clinical development plans or meet stricter approval conditions than we currently expect. There are equivalent processes and risks applicable to clinical trial applications in other countries, including countries in the European Union.

In addition, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory approval in one country does not guarantee regulatory approval in any other country. We may conduct one or more of our clinical trials with one or more trial sites that are located outside the United States. Although the FDA may accept data from clinical trials conducted outside the United States, acceptance of these data is subject to conditions imposed by the FDA, and there can be no assurance that the FDA will accept data from trials conducted outside of the United States. If the FDA does not accept the data from any trial that we conduct outside the United States, it would likely result in the need for additional trials, which would be costly and time-consuming and could delay or permanently halt our development of the applicable product candidates.

Commercialization of any product candidates we may develop will require preclinical and clinical development; regulatory approval in multiple jurisdictions; manufacturing supply, capacity and expertise; a commercial organization; and significant marketing efforts. The success of product candidates we may identify and develop will depend on many factors, including the following:

- timely and successful completion of preclinical studies, including toxicology studies, biodistribution studies and minimally efficacious dose studies in animals, where applicable;
- effective INDs or comparable foreign applications that allow commencement of our planned clinical trials or future clinical trials for any product candidates we may develop;
- successful enrollment and completion of clinical trials, including under the FDA's current Good Clinical Practices ("GCPs"), current Good Laboratory Practices ("GLPs"), and any additional regulatory requirements from foreign regulatory authorities;
- positive results from our future clinical trials that support a finding of safety and effectiveness and an acceptable risk-benefit profile in the intended populations;
- receipt of regulatory approvals from applicable regulatory authorities;
- establishment of arrangements through our own facilities or with third-party manufacturers for clinical supply and, where applicable, commercial manufacturing capabilities;
- establishment, maintenance, defense and enforcement of patent, trademark, trade secret and other intellectual property protection or regulatory exclusivity for any product candidates we may develop;
- commercial launch of any product candidates we may develop, if approved, whether alone or in collaboration with others;
- acceptance of the benefits and use of our product candidates we may develop, including method of administration, if and when approved, by patients, the medical community and third-party payors;
- effective competition with other therapies;

- maintenance of a continued acceptable safety, tolerability and efficacy profile of any product candidates we may develop following approval; and
- establishment and maintenance of healthcare coverage and adequate reimbursement by payors.

If we do not succeed in one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully commercialize any product candidates we may develop, which would materially harm our business. If we are unable to advance our product candidates to clinical development, obtain regulatory approval and ultimately commercialize our product candidates, or experience significant delays in doing so, our business will be materially harmed.

We are subject to additional development challenges and risks due to the novel nature of our genome editing technology.

Because our *in vivo* technology potentially involves genome editing across multiple cell and tissue types, we are subject to many of the challenges and risks that other genome editing therapeutics and gene therapies face, including:

- regulatory guidance regarding the requirements governing gene and genome editing therapy product candidates have changed and may continue to change in the future;
- to date, only a limited number of products that involve *in vivo* gene transfer have been approved globally;
- improper modulation of a gene sequence, including unintended editing events or insertion of a sequence into certain locations in a patient's chromosome, could lead to cancer, other aberrantly functioning cells or other diseases, including death;
- corrective expression of a missing protein in patients' cells could result in the protein being recognized as foreign, and lead to a sustained immunological reaction against the expressed protein or expressing cells, which could be severe or life-threatening; and
- regulatory agencies may require extended follow-up observation periods of patients who receive treatment using genome editing product candidates including, for example, the FDA's recommended 15-year follow-up observation period for these patients, and we will need to adopt such observation periods for product candidates we develop if required by the relevant regulatory agency, which could vary by country or region.

Furthermore, our technology has potential application for *ex vivo* immune cell editing strategies. Because *ex vivo* application of our technology potentially involves editing human cells and then delivering modified cells to patients, we may be subject to many of the challenges and risks that engineered cell therapies face. For example, clinical trials using engineered cell-based gene therapies may require unique products to be created for each patient and such individualistic manufacturing may be both inefficient and cost-prohibitive.

Clinical drug development involves a lengthy and expensive process, with an uncertain outcome. Because genome editing is novel and the regulatory landscape that will govern our potential product candidates is uncertain and may change, we cannot predict the time and cost of obtaining regulatory approval, if we receive it at all, for our potential product candidates.

The time required to obtain approval for any of our potential product candidates from the FDA, the European Medicines Agency ("EMA") or other comparable foreign regulatory authorities is unpredictable but typically takes many years following the commencement of clinical trials and depends upon numerous factors, including the substantial discretion of regulatory authorities. For more information on the regulatory approval process, see "Business—Government Regulation." Clinical trials may fail to demonstrate that our product candidates are safe for humans and effective for indicated uses. Even if initial clinical trials in any of any product candidates we may develop are successful, such product candidates may fail to show the desired safety and efficacy in

later stages of clinical development despite having successfully advanced through preclinical studies and initial clinical trials. There is a high failure rate for drugs and biologics proceeding through clinical trials. A number of companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in later stage clinical trials even after achieving promising results in earlier stage clinical trials.

Because genome editing is novel, the regulatory requirements that will govern any novel genome editing product candidates we develop may continue to evolve. Within the broader genetic therapy field, a limited number of gene therapy products have received marketing authorization from the FDA and the EMA to date. Even with respect to more established products that fit into the categories of gene therapies or cell therapies, the regulatory landscape is still developing. Regulatory requirements governing gene therapy products and cell therapy products have changed frequently and may continue to change in the future. For example, in January 2020, the FDA issued several new guidance documents on gene therapy products, and in March 2022, the FDA published a draft guidance document providing recommendations for human genome editing gene therapy products. Moreover, there is substantial, and sometimes uncoordinated, overlap in those responsible for regulation of existing gene therapy products and cell therapy products. For example, in the United States, the FDA has established the Office of Therapeutic Products ("OTP") within its Center for Biologics Evaluation and Research ("CBER") to consolidate the review of gene therapy and related products, and the Cellular, Tissue and Gene Therapies Advisory Committee to advise CBER on its review. Gene therapy clinical trials may also be subject to review and oversight by an institutional biosafety committee ("IBC"), a local institutional committee that reviews and oversees certain basic and clinical research conducted at the institution participating in the clinical trial. Although the FDA decides whether individual gene therapy protocols may proceed, the review process and determinations of other reviewing bodies, such as an IBC or institutional review board ("IRB"), can impede or delay the initiation of a clinical trial, even if the FDA has reviewed the trial and approved its initiation. For example, more recently, some genome editing companies have seen significant delays in receiving FDA authorization to allow the initiation of their clinical trials, and has suspended ongoing trials, due to the FDA's placement of clinical holds on their INDs.

The same applies in the European Union. The EMA's Committee for Advanced Therapies ("CAT") is responsible for assessing the quality, safety and efficacy of advanced-therapy medicinal products (i.e. gene therapy, somatic-cell therapy or tissue-engineered medicines). The role of the CAT is to prepare a draft opinion on an application for marketing authorization for a gene therapy medicinal candidate that is submitted to the Committee for Medicinal Products for Human Use ("CHMP") before CHMP adopts its opinion which is submitted to the European Commission for the final decision on whether to grant a marketing authorization or not. In the European Union, the EMA publishes guidelines for the development and evaluation of gene therapy medicinal products to assist in preparing marketing authorization applications, however these are continually under review. The EMA may issue new guidelines concerning the development and marketing authorization for gene therapy medicinal products and require that we comply with these new guidelines.

Adverse developments in post-marketing experience or in clinical trials conducted by others of gene therapy products, cell therapy products or products developed through the application of genome editing technology may cause the FDA, the EMA and other regulatory bodies to revise the requirements for development or approval of our potential product candidates or limit the use of products utilizing genome editing technologies, either of which could materially harm our business. In addition, the clinical trial requirements of the FDA, the EMA and other regulatory authorities and the criteria these regulators use to determine the safety and efficacy of a product candidate vary substantially according to the type, complexity, novelty and intended use and market of the potential products. The regulatory approval process for novel product candidates can be more expensive and take longer than for other, better known or more extensively studied pharmaceutical or other product candidates. Regulatory agencies administering existing or future regulations or legislation may not allow production and marketing of products utilizing genome editing technology in a timely manner or under

technically or commercially feasible conditions. In addition, regulatory action or private litigation could result in expenses, delays or other impediments to our research programs or the commercialization of resulting products.

The regulatory review committees and advisory groups described above and any new guidelines they promulgate may lengthen the regulatory review process, require us to perform additional studies or trials, increase our development costs, lead to changes in regulatory positions and interpretations, delay or prevent approval and commercialization of these treatment candidates or lead to significant post-approval limitations or restrictions. As we advance our research programs and develop future product candidates, we will be required to consult with these regulatory and advisory groups and to comply with applicable guidelines. If we fail to do so, we may be required to delay or discontinue development of any product candidates we identify and develop.

The genome editing field is relatively new and is evolving rapidly. We are focusing our research and development efforts on genome editing using programmable nucleases, base editing, and RNA and DNA-mediated integration systems (including prime editors and CRISPR-associated ("Cas") transposases), but other genome editing technologies may be discovered that provide significant advantages over such technologies, which could materially harm our business.

To date, we have focused our efforts on genome editing technologies using programmable nucleases, base editing, and RNA and DNA-mediated integration systems (including prime editors and Cas transposases backed by our metagenomics database. Other companies have previously undertaken research and development of genome editing technologies using zinc finger nucleases, engineered meganucleases and transcription activator-like effector nucleases, but to date none have obtained regulatory approval for a product candidate. There can be no certainty that genome editing technology will lead to the development of genetic medicines or that other genome editing technologies will not be considered better or more attractive for the development of medicines. A number of alternative approaches are being developed by others. Our investments may not be consistent with the expectations of our stockholders and may not produce the benefits that we expect, in which case our growth, business, financial condition, and results of operations could be adversely affected. See "Risk Factors—Risks Related to Business, Technology and Industry—We face significant competition in an environment of rapid technological change, and there is a possibility that our competitors may achieve regulatory approval before us or develop therapies that are safer or more advanced or effective than ours, which may harm our financial condition and our ability to successfully market or commercialize any product candidates we may develop." Similarly, another new genome editing technology that has not been discovered yet may be more attractive than programmable nucleases, base editing, and RNA and DNA-mediated integration systems. Moreover, if we decide to develop genome editing technologies other than those involving such technologies, we cannot be certain we will be able to obtain rights to such technologies. Any of these factors could reduce or eliminate our commercial opportunity, and could have a material adverse effect on our business, financial condition, results of operations and prospects.

If any of the product candidates we may develop or the delivery modes we rely on cause undesirable side effects, it could delay or prevent their development or potential regulatory approval, limit the commercial potential or result in significant negative consequences following any potential regulatory approval.

To date, we have not evaluated any product candidates in human clinical trials. It is impossible to predict when or if any product candidates we may develop will ultimately prove safe in humans. In the genomic medicine field, there have been several significant adverse events from gene therapy treatments in the past, including reported cases of leukemia and death. Product candidates we may develop may be associated with undesirable side effects, unexpected characteristics or other serious adverse events, including off-target cuts of DNA, or the introduction of cuts in DNA at locations other than the target sequence. These off-target cuts could lead to

disruption of a gene or a genetic regulatory sequence at an unintended site in the DNA, or, in those instances where we also provide a segment of DNA to serve as a repair template, it is possible that following off-target cut events, DNA from such repair template could be integrated into the genome at an unintended site, potentially disrupting another important gene or genomic element. There is also the potential risk of delayed adverse events following exposure to genome editing therapy due to persistent biologic activity of the genetic material or other components of products used to carry the genetic material. Possible adverse side effects that could occur with treatment with genome editing products include an immunologic reaction after administration which could substantially limit the effectiveness of the treatment If any of our genome editing technologies demonstrate a similar effect, we may decide or be required to halt or delay preclinical development or clinical development of any product candidates we may develop. In addition to serious adverse events or side effects caused by any product candidate we may develop, the administration process or related procedures also can cause undesirable side effects. If any such events occur, our preclinical studies or clinical trials could be delayed, suspended or terminated. There can be no assurance that our genome editing technologies will not cause severe or undesirable side effects.

If in the future we are unable to demonstrate that such adverse events were caused by factors other than our product candidate, the FDA, the EMA or other comparable foreign regulatory authorities could order us to cease further clinical studies of, or deny approval of, any product candidates we develop for any or all targeted indications. Even if we are able to demonstrate that all future serious adverse events are not product-related, such occurrences could affect patient recruitment or the ability of enrolled patients to complete the trial. Moreover, if we elect, or are required, to delay, suspend or terminate any clinical trial of any product candidate we may develop, the commercial prospects of such product candidates may be harmed and our ability to generate product revenues from any of these product candidates may be delayed or eliminated. Any of these occurrences may harm our ability to identify and develop product candidates, and may harm our business, financial condition, result of operations and prospects significantly.

Viral vectors, including the adeno-associated virus (“AAV”), which are relatively new approaches used for disease treatment, also have known side effects, and for which additional risks could develop in the future. In past clinical trials that were conducted by others with non-AAV vectors, significant side effects were caused by gene therapy treatments, including reported cases of myelodysplasia, leukemia and death. Other potential side effects could include an immunologic reaction and insertional oncogenesis, which is the process whereby the insertion of a functional gene near a gene that is important in cell growth or division results in uncontrolled cell division, which could potentially enhance the risk of cancer. If the vectors we use demonstrate a similar side effect, or other adverse events, we may be required to halt or delay further clinical development of any potential product candidates. Such delayed adverse events may also occur in other viral vectors, including AAV vectors.

In addition to side effects and adverse events caused by our product candidates, the conditioning, administration process or related procedures which may be used to condition a patient for gene therapy treatment also can cause adverse side effects and adverse events. A gene therapy patient is generally administered cytotoxic drugs to remove stem cells from the bone marrow to create sufficient space in the bone marrow for the modified stem cells to engraft and produce new cells. This procedure compromises the patient’s immune system, and conditioning regimens have been associated with adverse events in clinical trial participants.

Additionally, if we successfully develop a product candidate and it receives regulatory approval, the FDA could require us to adopt a Risk Evaluation and Mitigation Strategy (“REMS”) to ensure that the benefits of treatment with such product candidate outweighs the risks for each potential patient, which may include, among other things, a medication guide outlining the risks of the product for distribution to patients, a communication plan

to healthcare practitioners, extensive patient monitoring, or distribution systems and processes that are highly controlled, restrictive, and more costly than what is typical for the industry. Furthermore, if we or others later identify undesirable side effects caused by any product candidate that we may develop that receives regulatory approval, several potentially significant negative consequences could result, including:

- regulatory authorities may revoke licenses or suspend, vary or withdraw approvals of such product candidate;
- regulatory authorities may require additional warnings on the label;
- we may be required to change the way a product candidate is administered or conduct additional clinical trials;
- we could be sued and held liable for harm caused to patients; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of our genome editing technology and any product candidates we may identify and develop and could have a material adverse effect on our business, financial condition, results of operations and prospects.

Positive results from early preclinical studies of any product candidates we may develop may not necessarily be predictive of the results of later preclinical studies and any future clinical trials of such product candidates. If we cannot replicate the positive results from our earlier preclinical studies of any product candidates we may develop in our later preclinical studies and future clinical trials, we may be unable to successfully develop, obtain regulatory approval for and commercialize such product candidates.

Any positive results from our preclinical studies of any product candidates we may develop may not necessarily be predictive of the results from later preclinical studies and clinical trials of such product candidates. Similarly, even if we are able to complete our planned preclinical studies or any future clinical trials of any product candidates we may develop according to our current development timeline, the positive results from such preclinical studies and clinical trials of our product candidates may not be replicated in subsequent preclinical studies or clinical trial results.

Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials after achieving positive results in early-stage development and we cannot be certain that we will not face similar setbacks. These setbacks have been caused by, among other things, preclinical findings made while clinical trials were underway or safety or efficacy observations made in preclinical studies and clinical trials, including previously unreported adverse events. Moreover, preclinical and clinical data are often susceptible to varying interpretations and analyses and many companies that believed their product candidates performed satisfactorily in preclinical studies and clinical trials nonetheless failed to obtain regulatory approval.

We may also consider additional delivery modes, which may carry additional known and unknown risks.

We may also consider additional delivery modes, which may carry additional known and unknown risks. For example, we intend to use lipid nanoparticles (“LNPs”) to deliver our nucleases. While LNPs have been used to deliver smaller molecules, such as small interfering RNA (“siRNA”), they have not been clinically proven to deliver large RNA molecules. Furthermore, as with many AAV-mediated gene therapy approaches, certain patients’ immune systems might prohibit the successful delivery, thereby potentially limiting treatment outcomes of these patients. Even if initial clinical trials in any of our potential product candidates we may develop are successful, these product candidates we may develop may fail to show the desired safety and efficacy in later stages of clinical development despite having successfully advanced through preclinical studies and initial clinical trials.

We may find it difficult to enroll patients in our future clinical trials given the limited number of patients who have the diseases any product candidates we identify or develop are intended to target. If we experience delays or difficulties in the enrollment of patients in clinical trials, our clinical development activities and our receipt of necessary regulatory approvals could be delayed or prevented.

As we progress our programs, we may not be able to initiate or continue clinical trials for any product candidates we identify or develop if we are unable to locate and enroll a sufficient number of eligible patients to participate in these trials as required by the FDA, the EMA or other comparable regulatory authorities outside the United States, or as needed to provide appropriate statistical power for a given trial. Enrollment may be particularly challenging for some of the rare genetically defined diseases we are targeting in some of our discovery programs. In addition, if patients are unwilling to participate in our genome editing trials because of negative publicity from adverse events related to the biotechnology, gene therapy or genome editing fields, competitive clinical trials for similar patient populations, clinical trials in competing product candidates or for other reasons, the timeline for recruiting patients, conducting studies and obtaining regulatory approval of our potential product candidates may be delayed. Moreover, some of our competitors may have ongoing clinical trials for product candidates that would treat the same indications as our potential product candidates, and patients who would otherwise be eligible for our future clinical trials may instead enroll in clinical trials of our competitors' product candidates.

Patient enrollment is also affected by other factors, some of which may include:

- severity of the disease under investigation;
- size of the patient population and process for identifying patients, including proximity and availability of clinical trial sites for prospective patients with conditions that have small patient pools;
- design of the trial protocol, including efforts to facilitate timely enrollment in clinical trials;
- availability and efficacy of approved medications for the disease under investigation;
- availability of genetic testing for potential patients and ability to monitor patients adequately during and after treatment;
- ability to obtain and maintain patient informed consent;
- risk that enrolled patients will drop out before completion of the trial;
- eligibility and exclusion criteria for the trial in question;
- perceived risks and benefits of the product candidate under trial and genome editing as a therapeutic approach; and
- patient referral practices of physicians.

In addition, our ability to successfully initiate, enroll and complete a clinical trial in any foreign country is subject to numerous risks unique to conducting business in foreign countries, some of which may include:

- difficulty in establishing or managing relationships with clinical research organizations ("CROs") and physicians;
- different standards for the conduct of clinical trials;
- different standard-of-care for patients with a particular disease;
- difficulty in locating qualified local consultants, physicians and partners; and
- potential burden of complying with a variety of foreign laws, medical standards and regulatory requirements, including the regulation of pharmaceutical and biotechnology products and treatment and of genome editing technologies.

Enrollment delays in our future clinical trials may result in increased development costs for our potential product candidates, which would cause the value of our company to decline and limit our ability to obtain additional financing. If we or our collaborators have difficulty enrolling a sufficient number of patients to conduct our future clinical trials as planned, we may need to delay, limit or terminate ongoing or planned clinical trials or entire clinical programs, any of which would have an adverse effect on our business, financial condition, results of operations and prospects.

Genetic therapies are novel, and any product candidates we develop may be complex and difficult to manufacture. We could experience delays in satisfying regulatory authorities or production problems that result in delays in our development programs, limit the supply of the product candidates we may develop or otherwise harm our business.

Any product candidates we may develop will likely require processing steps that are more complex than those required for most chemical pharmaceuticals. Moreover, unlike chemical pharmaceuticals, the physical and chemical properties of a biologic such as the product candidates we intend to develop generally cannot be fully characterized. As a result, assays of the finished product candidate may not be sufficient to ensure that the product candidate will perform in the intended manner. Problems with the manufacturing process, even minor deviations from the normal process, could result in product defects or manufacturing failures that result in lot failures, product recalls, product liability claims, insufficient inventory or potentially delay progression of our potential IND filings. If we successfully develop product candidates, we may encounter problems achieving adequate quantities and quality of clinical-grade materials that meet the FDA, the EMA or other comparable applicable foreign standards or specifications with consistent and acceptable production yields and costs. For example, the current approach of manufacturing AAV vectors may fall short of supplying required number of doses needed for advanced stages of preclinical studies or clinical trials, and the FDA may ask us to demonstrate that we have the appropriate manufacturing processes in place to support the higher-dose group in our preclinical studies or clinical trials. In addition, any product candidates we may develop will require complicated delivery methods, each of which will introduce additional complexities in the manufacturing process.

In addition, the FDA, the EMA and other regulatory authorities may require us to submit samples of any lot of any approved product together with the protocols showing the results of applicable tests at any time. Under some circumstances, the FDA, the EMA or other regulatory authorities may require that we not distribute a lot until the agency authorizes its release. Slight deviations in the manufacturing process, including those affecting quality attributes and stability, may result in unacceptable changes in the product that could result in lot failures or product recalls. Lot failures or product recalls could cause us to delay clinical trials or product launches, which could be costly to us and otherwise harm our business, financial condition, results of operations and prospects.

Given the nature of biologics manufacturing there is a risk of contamination during manufacturing. Any contamination could materially harm our ability to produce product candidates on schedule and could harm our results of operations and cause reputational damage. Some of the raw materials that we anticipate will be required in our manufacturing process are derived from biologic sources. Such raw materials are difficult to procure and may be subject to contamination or recall. A material shortage, contamination, recall or restriction on the use of biologically derived substances in the manufacture of any product candidates we may develop could adversely impact or disrupt the commercial manufacturing or the production of clinical material, which could materially harm our development timelines and our business, financial condition, results of operations and prospects.

Any problems in our manufacturing process or the facilities with which we contract could make us a less attractive collaborator for potential partners, including larger pharmaceutical companies and academic

research institutions, which could limit our access to additional attractive development programs. Problems in third-party manufacturing process or facilities also could restrict our ability to ensure sufficient clinical material for any clinical trials we may be conducting or are planning to conduct and meet market demand for any product candidates we develop and commercialize.

We face significant competition in an environment of rapid technological change, and there is a possibility that our competitors may achieve regulatory approval before us or develop therapies that are safer or more advanced or effective than ours, which may harm our financial condition and our ability to successfully market or commercialize any product candidates we may develop.

The development and commercialization of new drug products is highly competitive. Moreover, the genome editing field is characterized by rapidly changing technologies, significant competition and a strong emphasis on intellectual property. We will face competition with respect to any product candidates that we may seek to develop or commercialize in the future from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide. Potential competitors also include academic institutions, government agencies and other public and private research organizations that conduct research, seek patent or other intellectual property protection and establish collaborative arrangements for research, development, manufacturing and commercialization.

There are a number of large pharmaceutical and biotechnology companies that currently market and sell products or are pursuing the development of products for the treatment of the disease indications for which we have research programs. Some of these competitive products and therapies are based on scientific approaches that are the same as or similar to our approach, while others are based on entirely different approaches.

Amongst publicly traded peers, there are several companies utilizing CRISPR/Cas technology, including Caribou Biosciences, Inc., Editas Medicine, Inc., CRISPR Therapeutics AG, Intellia Therapeutics, Inc. and Graphite Bio, Inc. Several additional companies such as Sangamo Therapeutics, Inc., Precision BioSciences, Inc., bluebird bio, Inc., and Cellectis Inc. utilize alternative nuclease-based genome editing technologies, including zinc finger nucleases (“ZFNs”), engineered meganucleases and transcription-activator like effector nucleases (“TALENs”). Beam Therapeutics utilizes base editing technology. Prime Medicine utilizes prime editing technology.

In addition, other private companies such as Tessera Therapeutics, Inc. and Tome Biosciences, Inc. have announced their work in recombinase DNA and RNA gene writers, although little is known publicly about their science or portfolio. Other companies have announced intentions to enter the genome editing field, such as Moderna, Inc. and Pfizer Inc. Most recently, new epigenetic editing companies have emerged, such as Chroma Medicine, Inc. and Tune Therapeutics, Inc. In addition, we face competition from companies utilizing gene therapy, oligonucleotides and cell therapy therapeutic approaches.

Several private companies such as Arbor Biotechnologies, Inc., Scribe Therapeutics Inc., and Mammoth Biosciences, Inc. are actively searching for novel genome editing components and have reported the discovery of new DNA-cutting enzymes. Other companies are active in LNP delivery technologies and advancing those into therapeutics using genetic therapies, including Recode Therapeutics, Inc., Verve Therapeutics, Inc., Generation Bio Co. and Beam Therapeutics, among others.

Any product candidates that we successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future that are approved to treat the same diseases for which we may obtain approval for any product candidates we may develop. This may include other types of therapies, such as small molecule, antibody and/or protein therapies.

Many of our current or potential competitors, either alone or with their collaboration partners, may have significantly greater financial resources and expertise in research and development, manufacturing, conducting preclinical studies and clinical trials, obtaining regulatory approvals and marketing approved products than we do. Mergers and acquisitions in the pharmaceutical, biotechnology and gene therapy industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early-stage

companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize product candidates that are safer, more effective, have fewer or less severe side effects, are more convenient, or are less expensive than any product candidates that we may develop or that would render any product candidates that we may develop obsolete or non-competitive. Our competitors also may obtain FDA or other regulatory approval for their product candidates more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. Additionally, technologies developed by our competitors may render our potential product candidates uneconomical or obsolete, and we may not be successful in marketing any product candidates we may develop against competitors.

In addition, as a result of the expiration or successful challenge of our patent or other intellectual property rights, we could face risks relating to our ability to successfully prevent or delay launch of competitors' products. The availability of our competitors' products could limit the demand and the price we are able to charge for any product candidates that we may develop and commercialize.

Adverse public perception of genome editing and cellular therapy products may negatively impact demand for, or regulatory approval of, any product candidates we may develop.

The product candidates we may develop will involve editing the human genome. The clinical and commercial success of any product candidates we may develop will depend in part on public acceptance of the use of genome editing therapies for the prevention or treatment of human diseases. Public attitudes may be influenced by claims that genome editing is unsafe, unethical, or immoral, and, consequently, our products may not gain the acceptance of the public or the medical community. Negative public reaction to gene therapy in general could result in greater government regulation and stricter labeling requirements of genome editing products, including any of our product candidates, and could cause a decrease in the demand for any products we may develop. Adverse public attitudes may adversely impact our ability to enroll clinical trials. Additionally, ethical, social and legal concerns about genome editing and gene therapy could result in additional regulations restricting or prohibiting any product candidates we may develop.

The commercial success of any of the product candidates we may develop will depend upon the degree of market acceptance by physicians, patients, third-party payors and others in the medical community.

Even if we obtain the requisite approvals from the FDA in the United States, the EMA in the European Union and other regulatory authorities internationally, the commercial success of any product candidates we may develop will depend, in part, on the acceptance of physicians, patients and health care payors of genome editing and gene therapy products in general, and our product candidates in particular, as medically necessary, cost-effective and safe. Any product that we commercialize may not gain acceptance by physicians, patients, health care payors and others in the medical community who may opt for existing treatments with which they are already familiar and for which greater clinical data may be available. The degree of market acceptance of genome editing and gene therapy products and, in particular, any product candidates we may develop, if approved for commercial sale, will depend on several factors, including:

- the efficacy, durability and safety of such product candidates as demonstrated in any future clinical trials;
- the potential and perceived advantages of such product candidates over alternative treatments;
- the cost of treatment relative to alternative treatments;

- the clinical indications for which the product candidate is approved by the FDA, the EMA or other regulatory authorities;
- patient awareness of, and willingness to seek, genotyping;
- the willingness of physicians to prescribe new therapies;
- the willingness of the target patient population to try new therapies;
- the prevalence and severity of any side effects;
- product labeling or product insert requirements of the FDA, the EMA or other regulatory authorities, including any limitations or warnings contained in a product's approved labeling;
- relative convenience and ease of administration;
- the strength of marketing and distribution support;
- the timing of market introduction of competitive products;
- publicity concerning our products or competing products and treatments; and
- sufficient third-party payor coverage and reimbursement.

Even if a potential product displays a favorable efficacy and safety profile in preclinical studies and future clinical trials, market acceptance of the product will not be fully known until after it is launched. If any product candidates we may develop do not achieve an adequate level of acceptance following regulatory approval, if ever, we may not generate significant product revenue and may not become profitable.

We may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.

We have limited financial and managerial resources. As a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to timely capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable products. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate.

If, in the future, we are unable to establish sales and marketing capabilities or enter into agreements with third parties to sell and market products based on our technologies, we may not be successful in commercializing our future product candidates if and when any such product candidates are approved and we may not be able to generate any revenue.

We do not currently have a sales or marketing infrastructure and, as a company, have no experience in the sale, marketing or distribution of therapeutic products. To achieve commercial success for any potential approved product candidate for which we retain sales and marketing responsibilities, we must build our sales, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services. In the future, we may choose to build a focused sales and marketing infrastructure to sell, or participate in sales activities with our collaborators for, some of our product candidates if and when they are approved.

There are risks involved with both establishing our own sales and marketing capabilities and entering into arrangements with third parties to perform these services. For example, recruiting and training a sales force is expensive and time consuming and could delay any product launch. If the commercial launch of a product candidate for which we recruit a sales force and establish marketing capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily incurred these commercialization expenses. This may be costly and our investment would be lost if we cannot retain or reposition our sales and marketing personnel.

Factors that may inhibit our efforts to commercialize our product candidates on our own include:

- our inability to recruit, train and retain adequate numbers of effective sales and marketing personnel;
- the inability of sales personnel to obtain access to physicians or persuade adequate numbers of physicians to prescribe any future product that we may develop;
- the lack of complementary treatments to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization.

If we enter into arrangements with third parties to perform sales, marketing and distribution services, our product revenue or the profitability to us from these revenue streams is likely to be lower than if we were to market and sell any product candidates that we develop ourselves. In addition, we may not be successful in entering into arrangements with third parties to sell and market our product candidates or may be unable to do so on terms that are favorable to us. We likely will have little control over such third parties and any of them may fail to devote the necessary resources and attention to sell and market our product candidates effectively. If we do not establish sales and marketing capabilities successfully, either on our own or in collaboration with third parties, we may not be successful in commercializing our product candidates. Further, our business, results of operations, financial condition and prospects will be materially adversely affected.

Due to the novel nature of our technology and the potential for any product candidates we may develop to offer therapeutic benefit in a single administration or limited number of administrations, we face uncertainty related to pricing and reimbursement for such product candidates.

Our initial target patient populations are relatively small, as a result of which the pricing and reimbursement of any product candidates we may develop, if approved, must be adequate to support the necessary commercial infrastructure. If we are unable to obtain adequate levels of reimbursement, our ability to successfully market and sell any such product candidates will be adversely affected. The manner and level at which reimbursement is provided for services related to any product candidates we may develop (e.g., for administration of our product candidate to patients) is also important. Inadequate reimbursement for such services may lead to physician and payor resistance and adversely affect our ability to market or sell our product candidates. In addition, we may need to develop new reimbursement models in order to realize adequate value. Payors may not be able or willing to adopt such new models, and patients may be unable to afford that portion of the cost that such models may require them to bear. If we determine such new models are necessary but we are unsuccessful in developing them, or if such models are not adopted by payors, our business, financial condition, results of operations, and prospects could be adversely affected.

We expect the cost of a single administration of a genome editing therapy, such as those we are seeking to develop, to be substantial, when and if they achieve regulatory approval. We expect that coverage and reimbursement by government and private payors will be essential for most patients to be able to afford these treatments. Accordingly, sales of any such product candidates will depend substantially, both domestically and

abroad, on the extent to which the costs of any of our product candidates will be paid by government authorities, private health plans, and other third-party payors. Payors may not be willing to pay high prices for a single administration. Coverage and reimbursement by a third-party payor may depend upon several factors, including the third-party payor's determination that use of a product is:

- a covered benefit under its health plan;
- safe, effective, and medically necessary;
- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

Obtaining coverage and reimbursement for a product from third-party payors is a time-consuming and costly process that could require us to provide to the payor supporting scientific, clinical, and cost-effectiveness data. There is significant uncertainty related to third-party coverage and reimbursement of newly approved products. We may not be able to provide data sufficient to gain acceptance with respect to coverage and reimbursement. If coverage and reimbursement are not available, or are available only at limited levels, we may not be able to successfully commercialize any of our product candidates. Even if coverage is provided, the approved reimbursement amount may not be adequate to realize a sufficient return on our investment.

In the United States, no uniform policy exists for coverage and reimbursement for products among third-party payors. Therefore, decisions regarding the extent of coverage and amount of reimbursement to be provided can differ significantly from payor to payor. The process for determining whether a payor will provide coverage for a product may be separate from the process for setting the reimbursement rate a payor will pay for the product. One third-party payor's decision to cover a particular product or service does not ensure that other payors will also provide coverage for the medical product or service. Third-party payors may limit coverage to specific products on an approved list or formulary, which may not include all FDA-approved products for a particular indication.

Further, third-party payors are increasingly challenging the price and examining the medical necessity and cost-effectiveness of medical products and services, in addition to their safety and efficacy. In order to secure coverage and reimbursement for any product that might be approved for sale, we may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of any product candidates we may develop, in addition to the costs required to obtain FDA or comparable regulatory approvals. Additionally, we may also need to provide discounts to purchasers, private health plans or government healthcare programs. Despite our best efforts, any product candidates we may develop may not be considered medically necessary or cost-effective. If third-party payors do not consider a product to be cost-effective compared to other available therapies, they may not cover an approved product as a benefit under their plans or, if they do, the level of payment may not be sufficient to allow us to sell our products at a profit. A decision by a third-party payor not to cover a product could reduce physician utilization once the product is approved and have a material adverse effect on sales, our operations and financial condition. Finally, in some foreign countries, the proposed pricing for a product candidate must be approved before it may be lawfully marketed. The requirements governing product pricing vary widely from country to country. For example, in the EU, pricing and reimbursement of pharmaceutical products are regulated at a national level under the individual EU Member States' social security systems. Some foreign countries provide options to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and can control the prices of medicinal products for human use. To obtain reimbursement or pricing approval, some of these countries may require the completion of clinical trials that compare the cost effectiveness of a particular product candidate to currently available therapies. A country may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. There can be no assurance that any country that has price

controls or reimbursement limitations for products will allow favorable reimbursement and pricing arrangements for any of our product candidates. Even if approved for reimbursement, historically, product candidates launched in some foreign countries, such as some countries in the EU, do not follow price structures of the United States and prices generally tend to be significantly lower.

If we are not able to establish collaborations on a timely basis, on commercially reasonable terms, or at all, we may have to alter, reduce or delay our development and commercialization plans, or increase our expenditures to fund development or commercialization activities at our own expense.

For some of the product candidates we may develop, we may decide to collaborate with other pharmaceutical and biotechnology companies for the development and potential commercialization of those product candidates. We face significant competition in seeking appropriate collaborations and collaborations are complex and time-consuming to negotiate and document. Whether we reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration, and the proposed collaborator's evaluation of a number of factors. Those factors may include the design or results of clinical trials, the likelihood of approval by the FDA, the EMA or similar regulatory authorities outside the United States, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge, and industry and market conditions generally. The collaborator may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us.

We may also be restricted under existing collaboration agreements from entering into future collaboration agreements on certain terms with potential collaborators. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators, which further increases competition we face in seeking potential collaborations.

We may not be able to negotiate collaborations on a timely basis, on acceptable terms, or at all. If we are unable to do so, we may have to curtail the development of the product candidate for which we are seeking to collaborate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we may not be able to develop product candidates or bring them to market and generate product revenue.

Unfavorable global economic conditions could adversely affect our business, financial condition or results of operations.

Our results of operations could be adversely affected by general conditions in the global economy, geopolitical tensions and in the global financial markets. A severe or prolonged economic downturn or additional global financial and political crises could result in a variety of risks to our business, including weakened demand for any product candidates we develop or our ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy could also strain our suppliers or other third parties and create import and export issues, possibly resulting in supply disruption. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business.

We face risks related to health epidemics, pandemics and other widespread outbreaks of contagious disease, including the COVID-19 pandemic, which could significantly disrupt our operations, impact our financial results or otherwise adversely impact our business.

Significant outbreaks of contagious diseases and other adverse public health developments could have a material impact on our business operations and operating results. For example, the spread of COVID-19 has affected segments of the global economy and our operations. As a result of the COVID-19 pandemic or similar public health crises that may arise, we may experience disruptions that could adversely impact our operations, research and development, and as we continue developing, any preclinical studies, clinical trials and manufacturing activities we may conduct, some of which may include:

- delays or disruptions in research programs, preclinical studies, clinical trials or IND-enabling studies that we or our collaborators may conduct;
- interruption or delays in the operations of the FDA, the EMA and comparable foreign regulatory agencies;
- interruption of, or delays in receiving and distributing, supplies of drug substance and drug product from our contract manufacturing organizations ("CMOs"), to preclinical or clinical research sites or delays or disruptions in any preclinical studies or clinical trials performed by CROs;
- limitations imposed on our business operations by local, state or federal authorities to address a pandemic or similar public health crises; and
- business disruptions caused by potential workplace, laboratory and office closures and an increased reliance on employees working from home, disruptions to or delays in ongoing laboratory experiments and operations, staffing shortages, travel limitations, and cybersecurity and data accessibility or security issues.

In addition, the trading prices for biopharmaceutical companies have been highly volatile as a result of the COVID-19 pandemic and we may face similar volatility in our stock price after we complete this public offering. We cannot predict the scope and severity of any economic recovery after the COVID-19 pandemic abates, including following any additional "waves" or other intensifying of the pandemic. If we or any of the third parties with whom we engage were to experience additional shutdowns or other business disruptions, our ability to conduct our business in the manner and on the timelines presently planned could be materially and negatively affected, which could have a material adverse impact on our business, financial condition, our results of operations and prospects. Furthermore, the COVID-19 pandemic could exacerbate the other risks described in this section.

Our operations are vulnerable to interruption by disasters, terrorist activity, pandemics and other events beyond our control, which could harm our business.

Our facilities are located in California. We have not undertaken a systematic analysis of the potential consequences to our business and financial results from a major flood, power loss, terrorist activity, pandemics or other regional or global disasters and generally do not have a recovery plan for such events. In addition, we do not carry sufficient insurance to compensate us for actual losses from interruption of our business that may occur, and any losses or damages incurred by us could harm our business. The occurrence of any of these business disruptions could seriously harm our operations and financial condition and increase our costs and expenses.

We may use artificial intelligence in our business, and challenges with properly managing its use, as well as uncertainty regarding the legal landscape surrounding the use of AI could result in reputational harm, competitive harm, and legal liability, and adversely affect our results of operations.

We incorporate artificial intelligence ("AI") solutions into our platform, and these applications may become important in our operations over time. There are significant risks involved in utilizing AI and no assurance can be provided that the usage of such AI will enhance our business or assist our business in being more efficient or profitable. Known risks of AI currently include inaccuracy, bias, toxicity, intellectual property infringement or

misappropriation, data privacy and cybersecurity and data provenance. In addition, AI may have errors or inadequacies that are not easily detectable. AI may also be subject to data herding and interconnectedness (i.e., multiple market participants utilizing the same data), which may adversely impact our business. If the data used to train AI or the content, analyses, or recommendations that AI applications assist in producing are or are alleged to be deficient, inaccurate, incomplete, overbroad or biased, our business, financial condition, and results of operations may be adversely affected. The legal landscape and subsequent legal protection for the use of AI remains uncertain, and development of the law in this area could impact our ability to enforce our proprietary rights or protect against infringing uses. If we do not have sufficient rights to use the data on which AI relies or to the outputs produced by AI applications, we may incur liability through the violation of certain laws, third-party privacy or other rights or contracts to which we are a party. Our use of AI applications may also, in the future, result in cybersecurity incidents that implicate the personal data of customers or patients. Any such cybersecurity incidents related to our use of AI applications could adversely affect our reputation and results of operations.

Risks Related to Regulatory, Legal, and Clinical Trials

While we intend to seek designations for our potential product candidates with the FDA and comparable foreign regulatory authorities that are intended to confer benefits such as a faster development process or an accelerated regulatory pathway, there can be no assurance that we will successfully obtain such designations. In addition, even if one or more of our potential product candidates are granted such designations, we may not be able to realize the intended benefits of such designations.

The FDA and comparable foreign regulatory authorities offer certain designations for product candidates that are designed to encourage the research and development of product candidates that are intended to address conditions with significant unmet medical need. These designations may confer benefits such as additional interaction with regulatory authorities, a potentially accelerated regulatory pathway and priority review. However, there can be no assurance that we will successfully obtain such designations for any potential product candidates. In addition, while such designations could expedite the development or approval process, they generally do not change the standards for approval. Even if we obtain such designations for one or more of our potential product candidates, there can be no assurance that we will realize their intended benefits. For example, we may seek fast track designation for some of our potential product candidates. If a therapy is intended for the treatment of a serious or life threatening condition and the therapy nonclinical or clinical data demonstrates the potential to address unmet medical needs for this condition, the therapy sponsor may apply for fast track designation. The FDA has broad discretion whether or not to grant this designation, so even if we believe a particular product candidate is eligible for this designation, there can be no assurance that the FDA would decide to grant it. Even if we do receive fast track designation, we may not experience a faster development process, review or approval compared to conventional FDA procedures, and receiving a fast track designation does not provide assurance of ultimate FDA approval. In addition, the FDA may withdraw fast track designation if it believes that the designation is no longer supported by data from our clinical development program. Additionally, we may seek a breakthrough therapy designation for some of our potential product candidates. A breakthrough therapy is defined as a therapy that is intended, alone or in combination with one or more other therapies, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the therapy may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. For therapies that have been designated as breakthrough therapies, interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens. Therapies designated as breakthrough therapies by the FDA may also be eligible for accelerated approval. Designation as a breakthrough therapy is within the discretion of the FDA. Accordingly, even if we believe one of our potential product candidates meets the criteria for designation as a breakthrough therapy, the FDA may disagree and

instead determine not to make such designation. In any event, the receipt of a breakthrough therapy designation for a product candidate may not result in a faster development process, review or approval compared to therapies considered for approval under conventional FDA procedures and does not assure ultimate approval by the FDA. In addition, even if one or more of our potential product candidates qualify as breakthrough therapies, the FDA may later decide that such product candidates no longer meet the conditions for qualification. In addition, we may seek a regenerative medicine advanced therapy ("RMAT") designation for some of our potential product candidates. An RMAT is defined as cell therapies, therapeutic tissue engineering products, human cell and tissue products and combination products using any such therapies or products. Gene therapies, including genetically modified cells that lead to a durable modification of cells or tissues may meet the definition of a regenerative medicine therapy. The RMAT program is intended to facilitate efficient development and expedite review of RMATs, which are intended to treat, modify, reverse or cure a serious or life-threatening disease or condition. A new drug application or a biologics license application ("BLA") for an RMAT may be eligible for priority review or accelerated approval through (1) surrogate or intermediate endpoints reasonably likely to predict long-term clinical benefit or (2) reliance upon data obtained from a meaningful number of sites. Benefits of such designation also include early interactions with the FDA to discuss any potential surrogate or intermediate endpoint to be used to support accelerated approval. A regenerative medicine therapy that is granted accelerated approval and is subject to post-approval requirements may fulfill such requirements through the submission of clinical evidence, clinical trials, patient registries or other sources of real world evidence, such as electronic health records; the collection of larger confirmatory data sets; or post-approval monitoring of all patients treated with such therapy prior to its approval. RMAT designation is within the discretion of the FDA. Accordingly, even if we believe one of our potential product candidates meets the criteria for designation as a regenerative medicine advanced therapy, the FDA may disagree and instead determine not to make such designation. In any event, the receipt of RMAT designation for a product candidate may not result in a faster development process, review or approval compared to drugs considered for approval under conventional FDA procedures and does not assure ultimate approval by the FDA. In addition, even if one or more of our potential product candidates qualify as for RMAT designation, the FDA may later decide that the biological products no longer meet the conditions for qualification. We may also seek rare pediatric disease designation for some of our potential product candidates. The FDA defines "rare pediatric disease" as a (i) serious or life-threatening disease in which the serious or life-threatening manifestations primarily affect individuals aged from birth to 18 years, including age groups often called neonates, infants, children, and adolescents; and (ii) a rare disease or condition within the meaning of the Orphan Drug Act. Designation of a product candidate as a product for a rare pediatric disease does not guarantee that a marketing application for such product candidate will meet the eligibility criteria for a rare pediatric disease priority review voucher ("PRV") at the time the application is approved. Under the U.S. Federal Food, Drug, and Cosmetic Act ("FDCA"), we will need to request a rare pediatric disease PRV in our original marketing application for any potential product candidates for which we have received rare pediatric disease designation. The FDA may determine that a marketing application for any such product candidates, if approved, does not meet the eligibility criteria for a PRV. Under the current statutory sunset provisions, after September 30, 2024, the FDA may only award a PRV for an approved rare pediatric disease product application if the sponsor has rare pediatric disease designation for the drug or biologic that is the subject of such application, and that designation was granted by September 30, 2024. After September 30, 2026, the FDA may not award any rare pediatric disease PRVs. However, it is possible the authority for FDA to award rare pediatric disease PRV will be further extended by Congress. As such, if we do not obtain approval of a marketing application for any of our potential product candidates on or before September 30, 2026, and if the PRV program is not extended by Congressional action, we may not receive a PRV.

In the future, we may also seek approval of product candidates under the FDA's accelerated approval pathway. A product may be eligible for accelerated approval if it is designed to treat a serious or life-threatening disease or condition and generally provides a meaningful advantage over available therapies upon a determination that the

product candidate has an effect on a surrogate endpoint or intermediate clinical endpoint that is reasonably likely to predict clinical benefit or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality ("IMM") that is reasonably likely to predict an effect on IMM or other clinical benefit. The FDA considers a clinical benefit to be a positive therapeutic effect that is clinically meaningful in the context of a given disease, such as IMM. For the purposes of accelerated approval, a surrogate endpoint is a marker, such as a laboratory measurement, radiographic image, physical sign or other measure that is thought to predict clinical benefit, but is not itself a measure of clinical benefit. An intermediate clinical endpoint is a clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit. The accelerated approval pathway may be used in cases in which the advantage of a new drug over available therapy may not be a direct therapeutic advantage, but is a clinically important improvement from a patient and public health perspective. If granted, accelerated approval is usually contingent on the sponsor's agreement to conduct, in a diligent manner, additional post-approval confirmatory studies to verity and describe the drug's clinical benefit. Under the Food and Drug Omnibus Reform Act of 2022 ("FDORA"), the FDA is permitted to require, as appropriate, that a post-approval confirmatory study or studies be underway prior to approval or within a specified time period after the date of approval for a product granted accelerated approval. FDORA also requires sponsors to send updates to the FDA every 180 days on the status of such studies, including progress toward enrollment targets, and the FDA must promptly post this information publicly. FDORA also gives the FDA increased authority to withdraw approval of a drug or biologic granted accelerated approval on an expedited basis if the sponsor fails to conduct such studies in a timely manner, send the necessary updates to the FDA, or if such post-approval studies fail to verify the drug's predicted clinical benefit. Under FDORA, the FDA is empowered to take action, such as issuing fines, against companies that fail to conduct with due diligence any post-approval confirmatory study or submit timely reports to the agency on their progress. There can be no assurance that the FDA would allow any of the product candidates we may develop to proceed on an accelerated approval pathway, and even if the FDA did allow such pathway, there can be no assurance that such submission or application will be accepted or that any expedited development, review or approval will be granted on a timely basis, or at all. Moreover, even if we received accelerated approval, any post-approval studies required to confirm and verify clinical benefit may not show such benefit, which could lead to withdrawal of any approvals we have obtained. Receiving accelerated approval does not assure that the product's accelerated approval will eventually be converted to a traditional approval.

If the FDA determines that a product candidate offers a treatment for a serious condition and, if approved, the product would provide a significant improvement in safety or effectiveness, the FDA may designate the product candidate for priority review. A priority review designation means that the goal for the FDA to review an application is six months, rather than the standard review period of ten months. We may request priority review for the product candidates that we may develop. The FDA has broad discretion with respect to whether or not to grant priority review status to a product candidate, so even if we believe a particular product candidate is eligible for such designation or status, the FDA may decide not to grant it. Moreover, a priority review designation does not necessarily result in an expedited regulatory review or approval process or necessarily confer any advantage with respect to approval compared to conventional FDA procedures. Receiving priority review from the FDA does not guarantee approval within the six-month review cycle or at all.

In addition, in the European Union, we may seek to participate in the PRIority Medicines ("PRIME") scheme for our potential product candidates. The PRIME scheme is intended to encourage development of products in areas of unmet medical need and provides accelerated assessment of products representing substantial innovation, where the marketing authorization application will be made through the centralized procedure in the European Union. Products from small-and medium-sized enterprises may qualify for earlier entry into the PRIME scheme than larger companies on the basis of compelling non-clinical data and tolerability data from initial clinical trials. Eligible products must target conditions for which there is an unmet medical need (no treatment option exists in the European Union or, they can offer a major therapeutic advantage over existing treatments). Many benefits accrue to sponsors of product candidates with PRIME designation, including but not

limited to, early and proactive regulatory dialogue with the EMA, frequent discussions on clinical trial designs and other development program elements, and accelerated marketing authorization application assessment once a dossier has been submitted. There is no guarantee, however, that our potential product candidates would be deemed eligible for the PRIME scheme and even if we do participate in the PRIME scheme, where during the course of development a product no longer meets the eligibility criteria, support under the PRIME scheme may be withdrawn. PRIME eligibility does not change the standards for product approval, and there is no assurance that any such designation or eligibility will result in expedited review or approval.

Healthcare and other reform legislation may increase the difficulty and cost for us and any collaborators we may have to obtain regulatory approval of and commercialize any product candidates we may develop and affect the prices we, or they, may obtain.

In the United States and some foreign jurisdictions, there have been and continue to be ongoing efforts to implement legislative and regulatory changes regarding the healthcare system. Such changes could prevent or delay regulatory approval of any product candidates that we may develop, restrict or regulate post-approval activities and affect our ability to profitably sell any product candidates for which we obtain regulatory approval. Although we cannot predict what healthcare or other reform efforts will be successful, such efforts may result in more rigorous coverage criteria, in additional downward pressure on the price that we, or our future collaborators, may receive for any approved products or in other consequences that may adversely affect our ability to achieve or maintain profitability.

Within the United States, the federal government and individual states have aggressively pursued healthcare reform, as evidenced by the passing of the Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, the “ACA”), and the ongoing efforts to modify or repeal that legislation. The ACA significantly changed the way healthcare is financed by both governmental and private insurers and contains a number of provisions that affect coverage and reimbursement of drug products and/or that could potentially reduce the demand for pharmaceutical products such as increasing drug rebates under state Medicaid programs for brand name prescription drugs and extending those rebates to Medicaid managed care and assessing a fee on manufacturers and importers of brand name prescription drugs reimbursed under certain government programs, including Medicare and Medicaid. Other aspects of healthcare reform, such as expanded government enforcement authority and heightened standards that could increase compliance-related costs, could also affect our business. Modifications have been implemented under the former Trump administration and additional modifications or repeal may occur.

There have also been executive, judicial, and congressional challenges to certain aspects of the ACA. It is unclear how other healthcare reform measures of the Biden administration or other efforts, if any, to challenge, repeal or replace the ACA will impact our business. There is no assurance that federal or state healthcare reform will not adversely affect our future business and financial results, and we cannot predict how future federal or state legislative, judicial or administrative changes relating to healthcare reform will affect our business.

In addition, other legislative changes have been proposed and adopted in the United States since the ACA was enacted. For example, the American Rescue Plan Act of 2021 eliminates the statutory Medicaid drug rebate cap, currently set at 100 percent of a drug’s average manufacturer price, for single source and innovator multiple source drugs, beginning January 1, 2024. The U.S. Budget Control Act of 2011 and subsequent legislation, among other things, included aggregate reductions of Medicare payments to providers of 2% per fiscal year, which remain in effect through 2032. The American Taxpayer Relief Act of 2012 further reduced Medicare payments to several providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

Additionally, there has been increasing legislative and enforcement interest in the United States with respect to drug pricing practices, which has resulted in several U.S. Congressional inquiries and federal and state legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of

prescription drugs, and review the relationship between pricing and manufacturer patient programs. The Inflation Reduction Act of 2022 (the "IRA"), for example, includes several provisions that may impact our business to varying degrees, including provisions that reduce the out-of-pocket spending cap for Medicare Part D beneficiaries to $2,000 starting in 2025, eliminating the prescription drug coverage gap; impose new manufacturer financial liability on certain drugs under Medicare Part D, allow the U.S. government to negotiate Medicare Part B and Part D price caps for certain high-cost drugs and biologics without generic or biosimilar competition; require companies to pay rebates to Medicare for certain drug prices that increase faster than inflation; and delay until January 1, 2032 the implementation of an HHS rebate rule that would have limited the fees that pharmacy benefit managers can charge. Further, under the IRA, orphan drugs are exempted from the Medicare drug price negotiation program, but only if they have one orphan designation and for which the only approved indication is for that disease or condition. If a product receives multiple orphan designations or has multiple approved indications, it may not qualify for the orphan drug exemption. The effects of the IRA on our business and the healthcare industry in general is not yet known.

In addition, President Biden has issued multiple executive orders that have sought to reduce prescription drug costs. In February 2023, HHS issued a proposal in response to an October 2022 Biden executive order that proposes a Medicare drug pricing model that will test whether targeted Medicare payment adjustments will sufficiently incentivize manufacturers to complete confirmatory trials for drugs approved through the FDA's accelerated approval pathway. Although a number of these and other proposed measures may require authorization through additional legislation to become effective, and the Biden administration may reverse or otherwise change these measures, both the Biden administration and Congress have indicated that they will continue to seek new legislative measures to control drug costs.

We cannot predict the initiatives that may be adopted in the future. The continuing efforts of the government, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce costs of healthcare and/or impose price controls may adversely affect:

- the demand for our product candidates, if we obtain regulatory approval;
- our ability to set a price that we believe is fair for our approved products;
- our ability to generate revenue and achieve or maintain profitability;
- the level of taxes that we are required to pay; and
- the availability of capital.

Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors, which may adversely affect our future profitability.

Individual states in the United States have also become increasingly active in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain drug access and marketing cost disclosure and transparency measures, and designed to encourage importation from other countries and bulk purchasing. Legally mandated price controls on payment amounts by third-party payors or other restrictions could harm our business, financial condition, results of operations and prospects. In addition, regional healthcare authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other healthcare programs. This could reduce the ultimate demand for our drugs or put pressure on our drug pricing, which could negatively affect our business, financial condition, results of operations and prospects.

Because we are developing product candidates in the field of genetic medicines in which there is little clinical experience, there is increased risk that the FDA, the EMA or other regulatory authorities may not consider the endpoints of our clinical trials to provide clinically meaningful results and that these results may be difficult to analyze.

In order to proceed into clinical development of any product candidates we identify, we will need to submit INDs or clinical trial applications to regulatory authorities and obtain regulatory clearance to commence clinical

development. Because the product candidates we identify are based on novel gene-editing technology, we may be unsuccessful in obtaining clearance from regulatory authorities to proceed into clinical development. In order to commence clinical development, we will need to identify success criteria and endpoints such that the FDA, the EMA or other regulatory authorities will be able to determine the clinical efficacy and safety profile of any product candidates we may develop. As we are initially seeking to identify and develop product candidates to treat diseases in which there is little clinical experience using new technologies, and while we may have opportunities to discuss our clinical development plans with regulatory authorities prior to commencing clinical development, there is heightened risk that the FDA, the EMA or other regulatory authorities may not consider the clinical trial endpoints that we propose to provide clinically meaningful results (reflecting a tangible benefit to patients). In addition, the resulting clinical data and results may be difficult to analyze. Even if the FDA does find our success criteria to be sufficiently validated and clinically meaningful, we may not achieve the pre-specified endpoints to a degree of statistical significance. This may be a particularly significant risk for many of the genetically defined diseases for which we plan to develop product candidates because many of these diseases such as PH1 have small patient populations, and designing and executing a rigorous clinical trial with appropriate statistical power is more difficult than with diseases that have larger patient populations. Furthermore, even if we do achieve the pre-specified criteria, we may produce results that are unpredictable or inconsistent with the results of the non-primary endpoints or other relevant data. The FDA also weighs the benefits of a product against its risks, and the FDA may view the efficacy results in the context of safety as not being supportive of regulatory approval. Other regulatory authorities in the European Union and other countries may make similar comments with respect to these endpoints and data. Any product candidates we may develop will be based on a novel technology that makes it difficult to predict the time and cost of development and of subsequently obtaining regulatory approval. No genome editing therapeutic product has been approved in the United States or in Europe. Within the broader genome product field, only a limited number of gene therapy products, such as uniQure N.V.'s Glybera and Abecma from Bristol Myers Squibb and bluebird bio, have received marketing authorization or regulatory approval from the European Commission or the FDA. Some of these products have taken years to register and have had to deal with significant issues in their post-marketing experience.

If preclinical studies or clinical trials of any product candidates we may identify and develop fail to demonstrate safety and efficacy to the satisfaction of regulatory authorities or do not otherwise produce positive results, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of such product candidates.

Before obtaining regulatory approval from regulatory authorities for the sale of any product candidates we may identify and develop, we must complete preclinical development and then conduct extensive clinical trials to demonstrate the safety and efficacy in humans. Clinical testing is expensive, difficult to design and implement, can take many years to complete, and is uncertain as to outcome. A failure of one or more clinical trials can occur at any stage of testing. The outcome of preclinical testing and early clinical trials may not be predictive of the success of later clinical trials, and interim results of a clinical trial do not necessarily predict final results.

Moreover, preclinical and clinical data are often susceptible to varying interpretations and analyses. Many companies that have believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain regulatory approval of their product candidates.

We and our collaborators, if any, may experience numerous unforeseen events during, or as a result of, clinical trials that could delay or prevent our ability to receive regulatory approval or commercialize any product candidates we may identify and develop, including:

- delays in reaching a consensus with regulators on trial design;
- regulators, IRBs, or independent ethics committees may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- delays in reaching or failing to reach agreement on acceptable clinical trial contracts or clinical trial protocols with prospective CROs and clinical trial sites;

- clinical trials of any product candidates we may develop may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development or research programs;
- difficulty in designing well-controlled clinical trials due to ethical considerations which may render it inappropriate to conduct a trial with a control arm that can be effectively compared to a treatment arm;
- difficulty in designing clinical trials and selecting endpoints for diseases that have not been well-studied and for which the natural history and course of the disease is poorly understood;
- the number of patients required for clinical trials of any product candidates we may develop may be larger than we anticipate; enrollment of suitable participants in these clinical trials, which may be particularly challenging for some of the rare genetically defined diseases we are targeting in our most advanced programs, may be delayed or slower than we anticipate; or patients may drop out of these clinical trials at a higher rate than we anticipate;
- our third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;
- regulators, IRBs, or independent ethics committees may require that we or our investigators suspend or terminate clinical research or clinical trials of any product candidates we may develop for various reasons, including noncompliance with regulatory requirements, a finding of undesirable side effects or other unexpected characteristics, or that the participants are being exposed to unacceptable health risks or after an inspection of our clinical trial operations or trial sites;
- the cost of clinical trials of any product candidates we may develop may be greater than we anticipate;
- the supply or quality of any product candidates we may develop or other materials necessary to conduct preclinical studies or clinical trials of any product candidates we may develop may be insufficient or inadequate, including as a result of delays in the testing, validation, manufacturing, and delivery of any product candidates we may develop to the preclinical study sites or clinical sites by us or by third parties with whom we have contracted to perform certain of those functions;
- delays in having patients complete participation in a trial or return for post-treatment follow-up;
- clinical trial sites dropping out of a trial;
- selection of clinical endpoints that require prolonged periods of clinical observation or analysis of the resulting data;
- occurrence of serious adverse events associated with any product candidates we may develop that are viewed to outweigh their potential benefits;
- occurrence of serious adverse events in trials of the same class of agents conducted by other sponsors; and
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols.

If we or our collaborators are required to conduct additional clinical trials or other testing of any product candidates we may develop beyond those that we currently contemplate, if we or our collaborators are unable to successfully complete clinical trials or other testing of any product candidates we may develop, or if the results of these trials or tests are not positive or are only modestly positive or if there are safety concerns, we or our collaborators may:

- be delayed in obtaining regulatory approval for any such product candidates we may develop or not obtain regulatory approval at all;
- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or safety warnings, including boxed warnings;
- be subject to changes in the way the product is administered;

- be required to perform additional clinical trials to support approval or be subject to additional post-marketing testing requirements;
- have regulatory authorities withdraw, or suspend, their approval of the product or impose restrictions on its distribution in the form of a REMS, or through modification to an existing REMS;
- be sued; or
- experience damage to our reputation.

Product development costs will also increase if we or our collaborators experience delays in clinical trials or other testing or in obtaining regulatory approvals. We do not know whether any clinical trials will begin as planned, will need to be restructured, or will be completed on schedule, or at all. Significant clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize any product candidates we may develop, could allow our competitors to bring products to market before we do, and could impair our ability to successfully commercialize any product candidates we may develop, any of which may harm our business, financial condition, results of operations, and prospects.

Failure to access or a significant delay in accessing animal research models may materially adversely affect our ability to advance our preclinical programs and successfully develop any product candidates we may identify, which could result in significant harm to our business.

Consistent with various rules, regulations and current good manufacturing practices (“cGMP”), our ability to advance our preclinical programs and successfully develop any product candidates we may identify requires access to animal research models sufficient to assess safety and in some cases to establish the rationale for therapeutic use. Failure to access or a significant delay in accessing animal research models that meet our needs or that fulfil regulatory requirements may materially adversely affect our ability to advance our preclinical programs and successfully develop any product candidates we may identify and this could result in significant harm to our business. During the COVID-19 pandemic, researchers and CROs (including those engaged by us) experienced significant limitations in their access to animal research models, specifically including a sharp reduction in the availability of non-human primates (“NHPs”) originating from breeding farms in Southeast Asia and limited access to the generation of genetically-modified rodent models used in efficacy evaluations. Prior to the pandemic, China was the leading exporter of NHPs employed in basic and applied research; however, early in 2020, China ceased exportation of cynomolgus monkeys, the species most commonly involved in pharmaceutical product development. This change in the world supply of a critical research model has resulted in increased demand from breeding farms principally located in Cambodia, Vietnam, and Mauritius Island, with a resultant marked increase in unit pricing. Consequently, this has further exacerbated an already constrained NHP supply for research purposes. If we are unable to obtain NHPs in sufficient quantities and in a timely manner to meet the needs of our preclinical research programs, if the price of NHPs that are available increases significantly, or if our suppliers are unable to ship the NHPs in their possession that are reserved for us, our ability to advance our preclinical programs and successfully develop any preclinical candidates we may identify may be materially adversely affected or significantly delayed.

Even if we complete the necessary clinical trials, we cannot predict when, or if, we will obtain regulatory approval to commercialize a product candidate we may develop in the United States or any other jurisdiction, and any such approval may be for a more narrow indication than we seek.

We cannot commercialize a product candidate until the appropriate regulatory authorities have reviewed and approved the product candidate. Even if our product candidates meet their safety and efficacy endpoints in clinical trials, the regulatory authorities may not complete their review processes in a timely manner, or we may not be able to obtain regulatory approval. Additional delays may result if an FDA advisory committee or other regulatory authority recommends non-approval or restrictions on approval. In addition, we may

experience delays or rejections based upon additional government regulation from future legislation or administrative action, or changes in regulatory authority policy during the period of product development, clinical trials, and the review process.

Regulatory authorities also may approve a product candidate for more limited indications than requested or they may impose significant limitations in the form of narrow indications, warnings or a REMS. These regulatory authorities may require labeling that includes precautions or contraindications with respect to conditions of use, or may grant approval subject to the performance of costly post-marketing clinical trials. In addition, regulatory authorities may not approve the labeling claims that are necessary or desirable for the successful commercialization of our product candidates. Any of the foregoing scenarios could materially harm the commercial prospects for our product candidates and materially adversely affect our business, financial condition, results of operations, and prospects.

Regulatory approval by the FDA in the United States, if obtained, does not ensure approval by regulatory authorities in other countries or jurisdictions. In addition, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory approval in one country does not guarantee regulatory approval in any other country. Approval processes vary among countries and can involve additional product candidate testing and validation and additional administrative review periods. Seeking regulatory approval outside the United States could result in difficulties and costs for us and require additional preclinical studies or clinical trials which could be costly and time-consuming. Regulatory requirements can vary widely from country to country and could delay or prevent the introduction of our product candidates in those countries. The foreign regulatory approval process involves all of the risks associated with FDA approval. We do not have any product candidates approved for sale in any jurisdiction, including international markets, and we do not have experience in obtaining regulatory approval in international markets. If we fail to comply with regulatory requirements in international markets or to obtain and maintain required approvals, or if regulatory approvals in international markets are delayed, our target market will be reduced and our ability to realize the full market potential of our product candidates will be unrealized.

Even if we, or any of our collaborators or strategic partners, obtain regulatory approvals for any product candidates we may develop, the terms of approvals and ongoing regulation of such product candidates could require the substantial expenditure of resources and may limit how we, or they, manufacture and market such product candidates, which could materially impair our ability to generate revenue.

Any product candidate for which we obtain regulatory approval, along with the manufacturing processes, post-approval clinical data, labeling, advertising and promotional activities for such product, will be subject to continual requirements of and review by the FDA, the EMA and other regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, facility registration and drug listing requirements, cGMP relating to quality control, quality assurance and corresponding maintenance of records and documents, applicable product tracking and tracing requirements and requirements regarding the distribution of samples to physicians and recordkeeping. In addition, our manufacturing and testing facilities will be required to undergo pre-license inspections and pre-approval inspections. Even if regulatory approval of a product candidate is granted, the approval may be subject to limitations on the indicated uses for which the products may be marketed or to the conditions of approval, or contain requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the products.

Accordingly, assuming we, or any collaborators we may have, receive regulatory approval for one or more product candidates we develop, we, and such collaborators, and our and their contract manufacturers will continue to expend time, money and effort in all areas of regulatory compliance, including manufacturing, production, product surveillance and quality control. If we and such collaborators are not able to comply with post-approval regulatory requirements, we and such collaborators could have the regulatory approvals for our products withdrawn by regulatory authorities and our, or such collaborators', ability to market any future

products could be limited, which could adversely affect our ability to achieve or sustain profitability. Furthermore, the cost of compliance with post-approval regulations may have a negative effect on our business, operating results, financial condition and prospects.

We may not be able to obtain orphan drug designation or exclusivity for our potential product candidates, and even if we do, that designation may not provide an expedited development or regulatory review or approval process and any orphan drug exclusivity we may receive for approved products may not prevent the FDA or the EMA from approving other competing products.

Under the Orphan Drug Act, the FDA may designate a product candidate as an orphan drug if it is a drug or biologic intended to treat a rare disease or condition. A similar regulatory scheme governs approval of orphan product candidates by the EMA in the European Union. Generally, if a product with an orphan drug designation subsequently receives the first regulatory approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the FDA or the EMA (as applicable) from approving another marketing application for another similar product candidate for the same orphan therapeutic indication for that time period. The applicable period is seven years in the United States and ten years in the European Union. The exclusivity period in the European Union can be reduced to six years if at the end of the fifth year it is determined that a product no longer meets the criteria for orphan designation, including if the product is sufficiently profitable so that market exclusivity is no longer justified.

In order for the FDA to grant orphan drug exclusivity to one of our potential product candidates, the agency must find that the product candidate is indicated for the treatment of a condition or disease that affects fewer than 200,000 individuals in the United States or that affects 200,000 or more individuals in the United States and for which there is no reasonable expectation that the cost of developing and making the product candidate available for the disease or condition will be recovered from sales of the product in the United States. The FDA may conclude that the condition or disease for which we seek orphan drug exclusivity does not meet this standard. Even if we obtain orphan drug exclusivity for a product candidate, that exclusivity may not effectively protect the product candidate from competition because different product candidates can be approved for the same condition. In addition, even after an orphan drug is approved, the FDA can subsequently approve the same product candidate for the same condition if the FDA concludes that the later product candidate is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care compared with the product that has orphan exclusivity. Orphan drug exclusivity may also be lost if the FDA or EMA determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the product to meet the needs of the patients with the rare disease or condition.

We are subject to U.S. and certain foreign export and import controls, sanctions, embargoes, anti-corruption laws, and anti-money laundering laws and regulations. Compliance with these legal standards could impair our ability to compete in domestic and international markets. We can face criminal liability and other serious consequences for violations, which can harm our business.

We are subject to export control and import laws and regulations, including the U.S. Export Administration Regulations, U.S. Customs regulations, various economic and trade sanctions regulations administered by the U.S. Treasury Department's Office of Foreign Assets Control, the U.S. Foreign Corrupt Practices Act of 1977, as amended (the "FCPA"), the U.S. domestic bribery statute contained in 18 U.S.C. § 201, the U.S. Travel Act, the USA PATRIOT Act, and other state and national anti-bribery and anti-money laundering laws in the countries in which we conduct activities. Anti-corruption laws are interpreted broadly and prohibit companies and their employees, agents, contractors, and other collaborators from authorizing, promising, offering, or providing, directly or indirectly, improper payments or anything else of value to recipients in the public or private sector. We may engage third parties to sell our products outside the United States, to conduct clinical trials, and/or to obtain necessary permits, licenses, patent registrations, and other regulatory approvals. We have direct or indirect interactions with officials and employees of government agencies or government-affiliated hospitals, universities,

and other organizations. We can be held liable for the corrupt or other illegal activities of our employees, agents, contractors, and other collaborators, even if we do not explicitly authorize or have actual knowledge of such activities. Any violations of the laws and regulations described above may result in substantial civil and criminal fines and penalties, imprisonment, the loss of export or import privileges, debarment, tax reassessments, breach of contract and fraud litigation, reputational harm, and other consequences.

If we or any contract manufacturers and suppliers we engage fail to comply with environmental, health, and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of our business.

We and any contract manufacturers and suppliers we engage are subject to numerous federal, state, and local environmental, health, and safety laws, regulations, and permitting requirements, including those governing laboratory procedures; the generation, handling, use, storage, treatment, and disposal of hazardous and regulated materials and wastes; the emission and discharge of hazardous materials into the ground, air, and water; and employee health and safety. Our operations involve the use of hazardous and flammable materials, including chemicals and biological materials. Our operations also produce hazardous waste. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. Under certain environmental laws, we could be held responsible for costs relating to any contamination at our current or past facilities and at third-party facilities. We also could incur significant costs associated with civil or criminal fines and penalties.

Compliance with applicable environmental laws and regulations may be expensive, and current or future environmental laws and regulations may impair our research and product development efforts. In addition, we cannot entirely eliminate the risk of accidental injury or contamination from these materials or wastes. Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We carry pollution insurance to protect against possible biological or hazardous waste accidents. However, in the event of contamination or injury, we could be held liable for damages or be penalized with fines in an amount exceeding our resources, and our clinical trials or regulatory approvals could be suspended, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

In addition, we may incur substantial costs in order to comply with current or future environmental, health, and safety laws, regulations, and permitting requirements. These current or future laws, regulations, and permitting requirements may impair our research, development, or production efforts. Failure to comply with these laws, regulations, and permitting requirements also may result in substantial fines, penalties, or other sanctions or business disruption, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Any third-party contract manufacturers and suppliers we engage will also be subject to these and other environmental, health, and safety laws and regulations. Liabilities they incur pursuant to these laws and regulations could result in significant costs or an interruption in operations, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Our employees, principal investigators, consultants and commercial partners may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements and insider trading.

We are exposed to the risk of fraud or other misconduct by our employees, consultants and commercial partners, and, if we commence clinical trials, our principal investigators. Misconduct by these parties could

include intentional failures to comply with FDA regulations or the regulations applicable in the European Union and other jurisdictions, provide accurate information to the FDA, the EMA and other regulatory authorities, comply with healthcare fraud and abuse laws and regulations in the United States and abroad, report financial information or data accurately or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Such misconduct also could involve the improper use of information obtained in the course of clinical trials or interactions with the FDA, the EMA or other regulatory authorities, which could result in regulatory sanctions and cause serious harm to our reputation. We are also exposed to risks in connection with any insider trading violations by employees or others affiliated with us. Upon the effectiveness of this registration statement, we will adopt a code of conduct and an insider trading policy applicable to all of our employees, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from government investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, financial condition, results of operations and prospects, including the imposition of significant fines or other sanctions.

Product liability lawsuits against us could cause us to incur substantial liabilities and could limit commercialization of any product candidates that we may develop.

We will face an inherent risk of product liability exposure related to the testing of any product candidates we may develop in human clinical trials and will face an even greater risk if we commercially sell such product candidates. If we cannot successfully defend ourselves against claims that our product candidates caused injuries, we could incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any product candidates that we may develop;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- significant costs to defend the related litigation;
- substantial monetary awards to trial participants or patients;
- loss of revenue; and
- the inability to commercialize any product candidates that we may develop.

We anticipate that we will need to increase our insurance coverage when we begin clinical trials and if we successfully commercialize any product candidate. Insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise.

Our internal computer and information technology systems, or those of our third-party vendors, collaborators, contractors, consultants or other third parties, may fail, become unavailable, or suffer security incidents or data breaches, loss or leakage of data and other disruptions, which could result in a material disruption of our product development programs, compromise confidential, sensitive or personal information related to our business or prevent us from accessing critical information, potentially exposing us to liability or otherwise adversely affecting our business.

Our internal computer and information technology systems and those of our current and any future third-party vendors, collaborators, contractors, consultants or other third parties, are vulnerable to damage or interruption

from, among other things, computer viruses, computer hackers, phishing attacks, ransomware, malware, social engineering, service interruptions, system malfunction, malicious code, employee theft, fraud, misconduct or misuse, denial-of-service attacks, sophisticated nation-state and nation-state-supported actors, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. While we seek to protect our information technology systems from system failure, accident and security breach, we have in the past and may in the future experience phishing and other security incidents which could result in a disruption of our development programs and our business operations, whether due to a loss of our trade secrets or other proprietary, personal or confidential information or other disruptions. For example, the loss of clinical trial data from future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data.

Controls employed by our information technology department and other third parties could prove inadequate, and our ability to monitor such third parties' data security practices is limited. Due to applicable laws, rules, regulations and standards or contractual obligations, we may be held responsible for any information security failure or cybersecurity attack attributed to our third-party vendors as they relate to the information we share with them.

If we were to experience a cybersecurity breach or other security incident relating to our information systems or data, the costs, time and effort associated with the investigation, remediation and potential notification of the breach to counterparties, regulators and data subjects could be material. We may incur significant costs in an effort to detect and prevent security incidents, and we may face increased costs and requirements to expend substantial resources in the event of an actual or perceived security incident. In addition, techniques used to sabotage or to obtain unauthorized access to networks in which data is stored or through which data is transmitted change frequently, become more complex over time and generally are not recognized until launched against a target. The risk of a security breach or disruption, particularly through cyberattacks including supply chain attacks such as SolarWinds or cyber intrusion, including by computer hackers, foreign governments, and cyber terrorists, has generally increased as the number, intensity, and sophistication of attempted attacks and intrusions from around the world have increased. As a result, we and our third-party vendors may be unable to anticipate these techniques or implement adequate preventative measures quickly enough to prevent either an electronic intrusion into our systems or services or a compromise of critical information. We cannot guarantee that we will be able to detect or prevent any such incidents, and, our remediation efforts may not be successful or timely. Our efforts to improve security and protect data from compromise may also identify previously undiscovered instances of data breaches or other cybersecurity incidents. If we do not allocate and effectively manage the resources necessary to build and sustain the proper technology and cybersecurity infrastructure, we could suffer significant business disruption, including transaction errors, supply chain or manufacturing interruptions, processing inefficiencies, data loss or the loss of or damage to intellectual property or other proprietary, personal or confidential information. Additionally, we do not currently maintain cybersecurity insurance, and any insurance we may maintain in the future against the risk of this type of loss in the future may not be sufficient to cover actual losses, or may not apply to the circumstances relating to any particular loss.

To the extent that any disruption or security breach were to result in a loss of, or damage to, our or our third-party vendors', collaborators', contractors', consultants' or other third parties' data, including personal data, or applications or inappropriate disclosure, loss, destruction or alteration of, or access to, confidential, personal or proprietary information, we could incur significant liability including litigation exposure, substantial penalties and fines, we could become the subject of regulatory action, inquiry or investigation, our competitive position could be harmed, we could incur significant reputational damage and the further development and commercialization of any product candidates we may develop could be delayed. Any of the above could have a material adverse effect on our business, financial condition, results of operations or prospects.

Laws and regulations governing any international operations we may have in the future may preclude us from developing, manufacturing and selling certain product candidates we may identify outside of the United States and require us to develop and implement costly compliance programs.

We are subject to numerous laws and regulations in each jurisdiction outside the United States in which we operate. The creation, implementation and maintenance of international business practices compliance programs is costly and such programs are difficult to enforce, particularly where reliance on third parties is required.

The FCPA, prohibits any U.S. individual or business from paying, offering, authorizing payment or offering of anything of value, directly or indirectly, to any foreign official, political party or candidate for the purpose of influencing any act or decision of the foreign entity in order to assist the individual or business in obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the United States to comply with certain accounting provisions requiring the company to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, and to devise and maintain an adequate system of internal accounting controls for international operations. The anti-bribery provisions of the FCPA are enforced primarily by the Department of Justice. The SEC is involved with enforcement of the books and records provisions of the FCPA.

Similarly, the U.K. Bribery Act 2010 has extra-territorial effect for companies and individuals having a connection with the United Kingdom. The U.K. Bribery Act prohibits inducements both to public officials and private individuals and organizations. Compliance with the FCPA and the U.K. Bribery Act is expensive and difficult, particularly in countries in which corruption is a recognized problem. In addition, the FCPA presents particular challenges in the pharmaceutical industry, because, in many countries, hospitals are operated by the government, and doctors and other hospital employees are considered foreign officials. Certain payments to hospitals in connection with clinical trials and other work have been deemed to be improper payments to government officials and have led to FCPA enforcement actions.

Various laws, regulations and executive orders also restrict the use and dissemination outside of the United States, or the sharing with certain non-U.S. nationals, of information classified for national security purposes, as well as certain products and technical data relating to those products. Our expansion outside of the United States has required, and will continue to require, us to dedicate additional resources to comply with these laws, and these laws may preclude us from developing, manufacturing or selling certain drugs and drug candidates outside of the United States, which could limit our growth potential and increase our development costs. The failure to comply with laws governing international business practices may result in substantial penalties, including suspension or debarment from government contracting. Violation of the FCPA can result in significant civil and criminal penalties. Indictment alone under the FCPA can lead to suspension of the right to do business with the U.S. government until the pending claims are resolved. Conviction of a violation of the FCPA can result in long-term disqualification as a government contractor. The termination of a government contract or relationship as a result of our failure to satisfy any of our obligations under laws governing international business practices would have a negative impact on our operations and harm our reputation and ability to procure government contracts. The SEC also may suspend or bar issuers from trading securities on U.S. exchanges for violations of the FCPA's accounting provisions.

We are subject to stringent and often unsettled laws, rules, regulations, policies, standards and contractual obligations related to data privacy and security and changes in such laws, rules, regulations, policies, standards and contractual obligations could adversely affect our business.

We are subject to data privacy and protection laws, rules, regulations, policies, standards and contractual obligations that apply to the collection, transmission, storage, use, disclosure, transfer, maintenance and other

processing of sensitive, personal and personally-identifying information, which, among other things, impose certain requirements relating to the privacy, security, transmission and other processing of personal information, including comprehensive regulatory systems in the United States and European Union. The legislative and regulatory landscape for privacy and data protection continues to evolve in jurisdictions worldwide, and there has been an increasing focus on privacy and data protection issues with the potential to affect our business. However, our data privacy program is in its early stages and we have not yet assessed the applicability of and our compliance with data privacy-related laws, rules and regulations. As a result, we cannot guarantee that we are and have been in compliance with all applicable data privacy and protection laws, rules regulations, policies and standards, and we may need to expend significant resources to implement privacy compliance measures. Additionally, we rely on certain third-party vendors to process certain confidential, sensitive or personal information on our behalf. Failure by us or our third-party vendors to comply with any of these laws, rules, regulations, contractual obligations or standards could result in notification obligations, enforcement actions, regulatory investigations or inquiries, significant fines, imprisonment of company officials and public censure, litigation and claims for damages by affected individuals, customers or business partners, damage to our reputation and loss of goodwill, any of which could have a material adverse effect on our business, financial condition, results of operations or prospects.

There are numerous U.S. federal and state laws, rules and regulations related to the privacy and security of personal information. In particular, regulations promulgated pursuant to the Health Insurance Portability and Accountability Act of 1996 (“HIPAA”), establish privacy and security standards that limit the use and disclosure of individually identifiable health information, or protected health information, and require the implementation of administrative, physical and technological safeguards to protect the privacy of protected health information and ensure the confidentiality, integrity and availability of electronic protected health information. The Genetic Information Nondiscrimination Act of 2008 (“GINA”), which clarified that genetic information is protected under HIPAA and restricts the use and disclosure of genetic information.

Additionally, laws in all 50 states require businesses to provide notice to customers whose personally identifiable information has been disclosed as a result of a data breach. These laws are not consistent, and compliance in the event of a widespread data breach is difficult and may be costly. Moreover, states have been frequently amending existing laws, requiring attention to changing regulatory requirements. We also may be contractually required to notify patients or other counterparties of a security breach. Although we may have contractual protections with our service providers, any actual or perceived security breach could harm our reputation and brand, expose us to potential liability or require us to expend significant resources on data security and in responding to any such actual or perceived breach. Any contractual protections we may have from our service providers may not be sufficient to adequately protect us from any such liabilities and losses, and we may be unable to enforce any such contractual protections. In addition to government regulation, privacy advocates and industry groups have and may in the future propose self-regulatory standards from time to time. These and other industry standards may legally or contractually apply to us, or we may elect to comply with such standards. Determining whether personal information has been handled in compliance with applicable privacy standards and our contractual obligations can be complex and may be subject to changing interpretation.

If we are unable to properly protect the privacy and security of personal information, we could be alleged or actually found to have breached our contracts. Furthermore, if we fail to comply with applicable privacy laws, including applicable HIPAA privacy and security standards, we could face significant administrative, civil and criminal penalties. HHS has the discretion to impose penalties without attempting to resolve violations through informal means, and such enforcement activity can result in financial liability and reputational harm, and responses to such enforcement activity can consume significant internal resources. In addition, state attorneys general are authorized to bring civil actions seeking either injunctions or damages in response to violations that

threaten the privacy or security of the personal information of state residents. We cannot be sure how these laws, rules and regulations will be interpreted, enforced or applied to our operations. In addition to the risks associated with enforcement activities and potential contractual liabilities, our ongoing efforts to comply with evolving laws, rules and regulations at the international, federal and state level may be costly and require ongoing modifications to our policies, procedures and systems.

We make public statements about our use, collection, disclosure and other processing of personal information through our privacy policies and information provided on our website. Although we endeavor to comply with our public statements and documentation, we may at times fail to do so or be alleged to have failed to do so. The publication of our privacy policies and other statements that provide promises and assurances about data privacy and security can subject us to potential government or legal action if they are found to be deceptive, unfair or misrepresentative of our actual practices.

Data privacy remains an evolving landscape at both the domestic and international level, with new laws, rules and regulations coming into effect and continued legal challenges. For example, California enacted the California Consumer Privacy Act of 2018 ("CCPA"), which went into effect on January 1, 2020 and, among other things, requires companies that process information on California residents to make new disclosures to consumers about their data collection, use and sharing practices, allow consumers to opt out of certain data sharing with third parties and provide a new cause of action for data breaches. Additionally, California voters approved the California Privacy Rights Act ("CPRA"), which went into effect on January 1, 2023. The CPRA significantly modifies the CCPA, including by introducing additional obligations such as data minimization and storage limitations and granting additional rights to California residents such as correction of personal information and additional opt-out rights. The CPRA also creates a new state agency that will be vested with authority to implement and enforce the CCPA and the CPRA. The enactment of the CCPA is prompting a wave of similar legislative developments in other states and at the federal level, reflecting a trend toward more stringent privacy legislation in the United States. For example, at least four such state laws (in Virginia, Colorado, Connecticut and Utah) have taken effect, or are scheduled to take effect in 2023. Certain state laws may be more stringent or broader in scope, or offer greater individual rights, with respect to confidential, sensitive and personal information than federal, international or other state laws, and such laws may differ from each other, which may complicate compliance efforts.

Our efforts to comply with the evolving data protection laws, rules and regulations may be unsuccessful. It is possible that these laws, rules and regulations may be interpreted and applied in a manner that is inconsistent with our practices and our efforts to comply with the evolving data protection rules may be unsuccessful. The laws are not consistent, and compliance in the event of a widespread data breach is costly and time-consuming. States are also frequently amending existing laws, requiring attention to frequently changing regulatory requirements. We must devote significant resources to understanding and complying with this changing landscape. Failure by us or our third-party vendors to comply with laws, rules and regulations regarding data privacy and protection would expose us to risk of enforcement actions taken by data protection authorities and carries with it the potential for significant penalties if we are found to be non-compliant. Similarly, failure to comply with federal and state laws, rules and regulations in the United States regarding privacy and security of personal information could expose us to penalties under such laws, rules and regulations. Any such failure by us or our third-party vendors to comply with data protection and privacy laws, rules and regulations could result in significant government-imposed fines or orders requiring that we change our practices, claims for damages or other liabilities, regulatory investigations and enforcement action, litigation and significant costs for remediation, any of which could adversely affect our business. Even if we are not determined to have violated these laws, rules or regulations, government investigations into these issues typically require the expenditure of significant resources and generate negative publicity, which could harm our business, financial condition, results of operations or prospects.

Risks Related to Third Party Relationships

If conflicts arise between us and our collaborators or strategic partners, these parties may act in a manner adverse to us and could limit our ability to implement our strategies.

If conflicts arise between our collaborators and corporate or strategic partners and us, the other party may act in a manner adverse to us and could limit our ability to implement our strategies. Some of our collaborators and strategic partners are conducting multiple product development efforts within each area that is the subject of the collaboration with us. Our collaborators or strategic partners, however, may develop, either alone or with others, products in related fields that are competitive with the product candidates we may develop that are the subject of these collaborations with us. Competing products, either developed by the collaborators or strategic partners or to which the collaborators or strategic partners have rights, may result in the withdrawal of partner support for any product candidates we may develop.

Additionally, some of our collaborators or strategic partners could also become our competitors in the future. Our collaborators or strategic partners could develop competing products, preclude us from entering into collaborations with their competitors, fail to obtain timely regulatory approvals, prevent us from obtaining timely regulatory approvals, terminate their agreements with us prematurely or fail to devote sufficient resources to the collaboration efforts, including development, delivery, manufacturing and commercialization of products. Any of these developments could harm our company and product development efforts.

We have entered into collaborations, and may enter into additional collaborations, with third parties for the research, development, manufacture and commercialization of programs or product candidates. If these collaborations are not successful, our business could be adversely affected.

As part of our strategy, we have entered into collaborations and intend to seek to enter into additional collaborations with third parties for one or more of our programs or product candidates we may develop. For example, in October 2021, we entered into a Strategic Collaboration and License Agreement with ModernaTX, Inc. (“Moderna”), focused on advancing new genome editing system for *in vivo* human therapeutic applications, in June 2022, we entered into a Development, Option and License Agreement with Affini-T Therapeutics, Inc. (“Affini-T”) to develop and commercialize gene edited T-cell receptor (“TCR”)-based therapeutic products exclusively in the field of treatment, prevention or diagnosis of any human cancer using products with any engineered primary TCR alpha/beta T cells and non-exclusively in the field of treatment, prevention or diagnosis of any human cancer using products with certain other engineered immune cells worldwide, and in November 2022, we entered into a Collaboration and License Agreement with Ionis Pharmaceuticals, Inc. (“Ionis”) to research, develop and commercialize investigational medicines using genome editing technologies. Our likely collaborators for any other collaboration arrangements include large and mid-size pharmaceutical companies, regional and national pharmaceutical companies and biotechnology companies. We have under these agreements, and we may have under any other arrangements that we may enter into with any third parties, limited control over the amount and timing of resources that collaborators dedicate to the development or commercialization of our product candidates. Our ability to generate revenue from these arrangements may depend on our collaborators’ abilities to successfully perform the functions assigned to them in these arrangements.

Collaborations that we enter into may not be successful, and any success will depend heavily on the efforts and activities of such collaborators. Collaborations pose a number of risks, including the following:

- collaborators have significant discretion in determining the amount and timing of efforts and resources that they will apply to these collaborations;
- collaborators may not perform their obligations as expected;

- collaborators may not pursue development of our product candidates or may elect not to continue or renew development programs based on results of clinical trials or other studies, changes in the collaborators' strategic focus or available funding, or external factors, such as an acquisition, that divert resources or create competing priorities;
- collaborators may not pursue commercialization of any product candidates that achieve regulatory approval or may elect not to continue or renew commercialization programs based on results of clinical trials or other studies, changes in the collaborators' strategic focus or available funding, or external factors, such as an acquisition, that may divert resources or create competing priorities;
- collaborators may delay preclinical studies and clinical trials, provide insufficient funding for a preclinical study or clinical trial program, stop a preclinical study or clinical trial or abandon a product candidate, repeat or conduct new preclinical studies or clinical trials or require a new formulation of a product candidate for preclinical or clinical testing;
- we may not have access to, or may be restricted from disclosing, certain information regarding product candidates being developed or commercialized under a collaboration and, consequently, may have limited ability to inform our stockholders about the status of such product candidates on a discretionary basis;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our product candidates and products if the collaborators believe that the competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours;
- product candidates discovered in collaboration with us may be viewed by our collaborators as competitive with their own product candidates or products, which may cause collaborators to cease to devote resources to the commercialization of our product candidates;
- a collaborator may fail to comply with applicable regulatory requirements regarding the development, manufacture, distribution or marketing of a product candidate or product;
- a collaborator with marketing and distribution rights to one or more of our product candidates that achieve regulatory approval may not commit sufficient resources to the marketing and distribution of such product or products;
- disagreements with collaborators, including disagreements over intellectual property or proprietary rights, contract interpretation or the preferred course of development, might cause delays or terminations of the research, development or commercialization of product candidates, might lead to additional responsibilities for us with respect to product candidates, or might result in litigation or arbitration, any of which would be time-consuming and expensive;
- collaborators may not properly obtain, maintain, enforce, defend or protect our intellectual property or proprietary rights or may use our proprietary information in such a way as to potentially lead to disputes or legal proceedings that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation;
- disputes may arise with respect to the ownership of intellectual property or other rights developed pursuant to our collaborations;
- collaborators may infringe, misappropriate or otherwise violate the intellectual property or proprietary rights of third parties, which may expose us to litigation and potential liability; and

- collaborations may be terminated for the convenience of the collaborator, and, if terminated, we could be required to raise additional capital to pursue further development or commercialization of the applicable product candidates.

Collaboration agreements may not lead to development or commercialization of product candidates in the most efficient manner, or at all. If any current or future collaborations do not result in the successful development and commercialization of products or if one of our collaborators terminates its agreement with us, we may not receive any future research funding or milestone or royalty payments under the collaboration. If we do not receive the funding we expect under these agreements, our development of our product candidates could be delayed and we may need additional resources to develop our product candidates. All of the risks relating to product development, regulatory approval and commercialization described in this prospectus also apply to the activities of our collaborators.

Collaboration agreements may require us to incur non-recurring and other charges, increase our near- and long-term expenditures, issue securities that dilute our existing stockholders, or disrupt our management and business. For more information, see the section titled "Business—Our License and Collaboration Agreements."

We could face significant competition in seeking appropriate collaborators, and the negotiation process is time-consuming and complex. Our ability to reach a definitive collaboration agreement will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration, and the proposed collaborator's evaluation of several factors. If we license rights to any product candidates we or our collaborators may develop, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations and company culture.

We may also be restricted under existing collaboration agreements from entering into future collaboration agreements on certain terms with potential collaborators. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators, which further increases competition we face in seeking potential collaborations.

Additionally, subject to its contractual obligations to us, if a collaborator of ours is involved in a business combination, the collaborator might deemphasize or terminate the development or commercialization of any product candidate licensed to it by us. If one of our collaborators terminates its agreement with us, we may find it more difficult to attract new collaborators and our perception in the business and financial communities could be adversely affected.

Our collaborators and strategic partners may control aspects of our clinical trials, which could result in delays and other obstacles in the commercialization of our proposed products and materially harm our results of operations.

For some programs, we will depend on third party collaborators and strategic partners to design and conduct our clinical trials. As a result, we may not be able to conduct these programs in the manner or on the time schedule we currently contemplate, which may negatively impact our business operations. In addition, if any of these collaborators or strategic partners withdraw support for our programs or proposed products or otherwise impair their development, our business could be negatively affected.

In October 2021, we entered into a Strategic Collaboration and License Agreement with Moderna focused on advancing new genome editing system for *in vivo* human therapeutic applications, in June 2022, we entered into a Development, Option and License Agreement with Affini-T to develop and commercialize gene edited TCR-based therapeutic products exclusively in the field of treatment, prevention or diagnosis of any human cancer using products with any engineered primary TCR alpha/beta T cells and non-exclusively in the field of

treatment, prevention or diagnosis of any human cancer using products with certain other engineered immune cells worldwide, and in November 2022, we entered into a Collaboration and License Agreement with Ionis to research, develop and commercialize investigational medicines for up to eight potential genetic targets using genome editing technologies. Our lack of control over the clinical development in our agreements with Moderna, Affini-T and Ionis could cause delays or other difficulties in the development and commercialization of product candidates, which may prevent completion of intended IND applications in a timely fashion, if at all.

In addition, the termination of these agreements would prevent us from receiving any milestone, royalty payments and other benefits under that agreement, which would have a materially adverse effect on our results of operations.

Our collaborators or strategic partners may decide to adopt alternative technologies or may be unable to develop commercially viable products with our technology, which would negatively impact our revenues and our strategy to develop these products.

Our collaborators or strategic partners may adopt alternative technologies, which could decrease the marketability of our genome editing technology. Additionally, because our current or future collaborators or strategic partners are likely to be working on more than one development project, they could choose to shift their resources to projects other than those they are working on with us. If they do so, this would delay our ability to test our technology and would delay or terminate the development of potential products based on our genome editing technology. Further, our collaborators and strategic partners may elect not to develop products arising out of our collaborative and strategic partnering arrangements or to devote sufficient resources to the development, manufacturing, marketing or sale of these products. The failure to develop and commercialize a product candidate pursuant to our agreements with our current or future collaborators would prevent us from receiving future milestone and royalty payments which would negatively impact our revenues.

We expect to rely on third parties to conduct our clinical trials and some aspects of our research, as well as some aspects of our delivery methods, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials, research or testing.

We expect to rely on third parties, such as CROs, clinical data management organizations, medical institutions, preclinical laboratories and clinical investigators, to conduct some aspects of our research. For example, we may rely on a third party to supply LNPs or AAVs, or to conduct our preclinical animal experiments. Any of these third parties may terminate their engagements with us at any time under certain criteria. If we need to enter into alternative arrangements, it may delay our product development activities.

Our reliance on these third parties for clinical research and other development activities will reduce our control over these activities but will not relieve us of our responsibilities. For example, we will remain responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. Moreover, the FDA, the EMA and other regulatory authorities require us and the study sites and investigators we work with to comply with standards, commonly referred to as GLPs and GCPs for conducting, recording and reporting the results of preclinical studies and clinical trials to assure, amongst other things, that data and reported results are credible and accurate and that the rights, integrity and confidentiality of trial participants are protected. In the United States, we also are required to register certain clinical trials and post the results of completed clinical trials on a government-sponsored database, ClinicalTrials.gov, within certain timeframes. Failure to do so can result in fines, adverse publicity and civil and criminal sanctions.

Although we intend to design the preclinical studies and clinical trials for our potential product candidates, CROs will conduct some or all of the preclinical studies and clinical trials. As a result, many important aspects of our development programs, including their conduct and timing, will be outside of our direct control. Our reliance on third

parties to conduct preclinical studies and future clinical trials will also result in less direct control over the management of data developed through preclinical studies and clinical trials than would be the case if we were relying entirely upon our own staff. Communicating with outside parties can also be challenging, potentially leading to mistakes as well as difficulties in coordinating activities. Among other reasons that may delay or impact the development of our potential product candidates, outside parties may:

- have staffing difficulties;
- fail to comply with contractual obligations;
- experience regulatory compliance issues;
- undergo changes in priorities or become financially distressed; or
- form relationships with other entities, some of which may be our competitors.

These factors may materially adversely affect the willingness or ability of third parties to conduct our preclinical studies and clinical trials and may subject us to unexpected cost increases that are beyond our control. If the CROs and other third parties do not perform such preclinical studies and future clinical trials in a satisfactory manner, breach their obligations to us or fail to comply with regulatory requirements, the development, regulatory approval and commercialization of our potential product candidates may be delayed, we may not be able to obtain regulatory approval and commercialize our potential product candidates or our development programs may be materially and irreversibly harmed. If we are unable to rely on preclinical and clinical data collected by our CROs and other third parties, we could be required to repeat, extend the duration of or increase the size of any preclinical studies or clinical trials we conduct and this could significantly delay commercialization and require greater expenditures.

We may also expect to rely on other third parties to store and distribute drug supplies for our future clinical trials. Any performance failure on the part of our distributors could delay clinical development or regulatory approval of any product candidates we may develop or commercialization of our therapies, producing additional losses and depriving us of potential product revenue.

Manufacturing biologic products is complex and subject to product loss for a variety of reasons. We contract with third parties for the manufacture of certain materials for our development programs and expect to continue to do so for clinical trials and commercialization. This reliance on third parties increases the risk that we will not have sufficient quantities of our future product candidates or products or such quantities at an acceptable cost or quality, which could delay, prevent or impair our development or commercialization efforts.

We operate and are expanding our cGMP manufacturing facility which is currently capable of manufacturing clinical grade nucleases and mRNA to supply both wholly-owned and collaboration programs. We also partner with CMOs for guide RNA (“gRNA”) and DNA template development and supply. We also rely, and expect to continue to rely, on third parties for gRNA and DNA template development and supply, as well as for preclinical and clinical testing and commercial manufacture if any of our product candidates receive regulatory approval. We also expect to rely on these third parties for certain logistics, including packaging, labeling, storage, and distribution. This reliance on third parties increases the risk that we will not have sufficient quantities of our materials or future product candidates or products or such quantities at an acceptable cost or quality, which could delay, prevent or impair our development or commercialization efforts. We may be unable to establish any agreements with third-party manufacturers or to do so on acceptable terms. Even if we are able to establish agreements with third-party manufacturers, reliance on third-party manufacturers entails additional risks, including:

- reliance on the third party for regulatory compliance and quality assurance;
- the possible breach of the manufacturing agreement by the third party;

- the possible misappropriation of our proprietary information, including our trade secrets and know-how; and
- the possible termination or nonrenewal of the agreement by the third party at a time that is costly or inconvenient for us.

We or our third-party manufacturers may encounter shortages in the raw materials or active pharmaceutical ingredients necessary to produce our future product candidates in the quantities needed for our preclinical studies or clinical trials or, if our future product candidates are approved, in sufficient quantities for commercialization or to meet an increase in demand, as a result of capacity constraints or delays or disruptions in the market for the raw materials or active pharmaceutical ingredients, including shortages caused by the purchase of such raw materials or active pharmaceutical ingredient by our competitors or others. The failure of us or our third-party manufacturers to obtain the raw materials or active pharmaceutical ingredients necessary to manufacture sufficient quantities of our future product candidates may have a material adverse effect on our business.

Components of a finished therapeutic product approved for commercial sale or used in late-stage clinical trials must be manufactured in accordance with cGMP. We, along with our third-party manufacturers, are subject to inspection and approval by regulatory authorities before we can commence the manufacture and sale of any of our future product candidates, and thereafter subject to ongoing inspection from time to time. We or our third-party manufacturers may not be able to comply with cGMP or similar regulatory requirements outside of the United States. Our failure, or the failure of our third-party manufacturers, to comply with applicable regulations could result in regulatory actions, such as the issuance of FDA Form 483 notices of observations, warning letters or sanctions being imposed on us, including clinical holds, fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of product candidates or products, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect supplies of our products.

Manufacturing biologic products, such as the product candidates we intend to develop, is complex, especially in large quantities. Biologic products must be made consistently and in compliance with a clearly defined manufacturing process. Accordingly, it is essential to be able to validate and control the manufacturing process to assure that it is reproducible. Any product candidates and products that we may develop may compete with other product candidates and products for access to manufacturing facilities. As a result, we may not obtain access to these facilities on a priority basis or at all. There are a limited number of manufacturers that operate under cGMP and that might be capable of manufacturing for us.

Any performance failure on the part of our existing or future manufacturers could delay clinical development or regulatory approval. We do not currently have arrangements in place for redundant supply or a source for bulk drug substance nor do we have any agreements with third-party manufacturers for long-term commercial supply. If any of our contract manufacturers cannot perform as agreed, we may be required to replace such manufacturers. Although we believe that there are several potential alternative manufacturers who could manufacture materials or future product candidates or products we may develop, we may incur added costs and delays in identifying and qualifying any such replacement or be unable to reach agreement with an alternative manufacturer. If we are required to change third party-manufacturers for any reason, we will be required to verify that the new third party-manufacturer maintains facilities and procedures that comply with quality standards and with all applicable regulations. We will also need to verify, such as through a manufacturing comparability study, that any new manufacturing process will produce our materials or future product candidates or products according to the specifications previously submitted to the FDA or another regulatory authority. The delays associated with the verification of a new third party-manufacturer could negatively affect our ability to develop product candidates or commercialize our products in a timely manner or within budget. Furthermore, a third party-manufacturer may possess technology related to the manufacture of

our materials or future product candidates or products that such third party-manufacturer owns independently. This would increase our reliance on such third party-manufacturer or require us to obtain a license from such third party-manufacturer in order to have another third party-manufacturer manufacture our materials or future product candidates or products, which may not be available on commercially reasonable terms, or at all. In addition, changes in manufacturers often involve changes in manufacturing procedures and processes, which could require that we conduct bridging studies between our prior clinical supply used in our clinical trials and that of any new manufacturer. We may be unsuccessful in demonstrating the comparability of clinical supplies which could require the conduct of additional clinical trials.

Our current and anticipated future dependence upon others for the manufacture of materials and any future product candidates or products we may develop may adversely affect our future profit margins and our ability to commercialize any products that receive regulatory approval on a timely and competitive basis.

Our relationships with healthcare providers, physicians, and third-party payors will be subject to applicable anti-kickback, fraud and abuse, anti-bribery and other healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm, and diminished profits and future earnings.

Our relationships with healthcare providers, physicians, and third-party payors will be subject to applicable anti-kickback, fraud and abuse, anti-bribery and other healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm, and diminished profits and future earnings.

Healthcare providers, including physicians, and third-party payors play a primary role in the recommendation and prescription of any product candidates that we may develop for which we obtain regulatory approval and marketing approval. Our current and future arrangements with third-party payors, healthcare providers and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we market, sell, and distribute our products for which we obtain regulatory approval. Restrictions under applicable federal and state healthcare laws and regulations, including certain laws and regulations applicable only if we have marketed products, include the following:

- the civil FCA, prohibits knowingly presenting or causing the presentation of a false, fictitious or fraudulent claim for payment to the U.S. government. Actions under the FCA may be brought by the Attorney General or as a qui tam action by a private individual in the name of the government. Violations of the FCA can result in very significant monetary penalties, for each false claim and treble the amount of the government's damages. Manufacturers can be held liable under the FCA even when they do not submit claims directly to government payors if they are deemed to "cause" the submission of false or fraudulent claims;
- the federal Anti-Kickback Statute prohibits, among other things, persons from soliciting, receiving or providing remuneration, directly or indirectly, to induce either the referral of an individual, for an item or service or the purchasing or ordering of a good or service, for which payment may be made under federal healthcare programs such as Medicare and Medicaid. The federal Anti-Kickback Statute has been interpreted to apply to arrangements between manufacturers on one hand and prescribers, purchasers, and formulary managers on the other. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. A violation of the federal Anti-Kickback Statute can also form the basis for FCA liability;
- HIPAA, which, in addition to privacy protections applicable to healthcare providers and other entities, prohibits executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 ("HITECH"), and its implementing regulations, including the final omnibus rule published on January 25, 2013, imposes, among other things, certain requirements relating to the privacy, security and transmission of individually identifiable health information. Among other things, HITECH makes HIPAA's privacy and security standards directly applicable to "business associates," defined as independent contractors or agents of covered entities that create, receive, maintain, transmit, or obtain, protected health information in connection with providing a service for or on behalf of a covered entity, and their covered subcontractors. HITECH also increased the civil and criminal penalties that may be imposed against covered entities, business associates and possibly other persons, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorney's fees and costs associated with pursuing federal civil actions;
- the FDCA, which among other things, strictly regulates drug marketing, prohibits manufacturers from marketing such products for off-label use and regulates the distribution of samples;
- federal laws that require pharmaceutical manufacturers to report certain calculated product prices to the government or provide certain discounts or rebates to government authorities or private entities, often as a condition of reimbursement under government healthcare programs;
- federal transparency laws, including the federal Physician Payment Sunshine Act created under the Patient Protection and Affordable Care Act as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, the ACA), and its implementing regulations, which requires manufacturers of certain drugs, devices, medical supplies, and biologics, among others, to track and disclose payments under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) and other transfers of value they make to U.S. physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members. Effective January 1, 2022, these reporting obligations will extend to include transfers of value made to certain non-physician providers such as physician assistants and nurse practitioners. This information is subsequently made publicly available in a searchable format on a Centers for Medicare & Medicaid Services ("CMS") website. Failure to disclose required information may result in civil monetary penalties for all payments, transfers of value or ownership or investment interests that are not timely, accurately and completely reported in an annual submission. Certain states also mandate implementation of compliance programs, impose restrictions on drug manufacturer marketing practices and/or require the tracking and reporting of gifts, compensation and other remuneration to physicians and/or other healthcare providers; and
- analogous state and foreign laws and regulations, such as state anti-kickback, anti-bribery and false claims laws, which may apply to healthcare items or services that are reimbursed by non-governmental third-party payors, including private insurers.

Some state laws also require pharmaceutical companies to comply with specific compliance standards, restrict financial interactions between pharmaceutical companies and healthcare providers or require pharmaceutical companies to report information related to payments to healthcare providers or marketing expenditures.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. Given the breadth of the laws and regulations, limited guidance for certain laws and regulations and evolving government interpretations of the laws and regulations, governmental authorities may possibly conclude that our business practices may not comply with healthcare laws and regulations. If our operations are found to be in violation of any of the laws described above or any other government regulations that apply to us, we may be subject to significant penalties, including civil and criminal penalties, damages, fines, exclusion from participation in government healthcare programs, such as

Medicare and Medicaid, individual imprisonment, and the curtailment or restructuring of our operations, any of which could adversely affect our business, financial condition, results of operations, and prospects.

The provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order, or use of medicinal products is prohibited in the European Union. The provision of benefits or advantages to also induce or reward improper performance generally is governed by the national anti-bribery laws of European Union Member States, and the Bribery Act 2010 in the United Kingdom. Infringement of these laws could result in substantial fines and imprisonment. EU Directive 2001/83/EC, which is the EU Directive governing medicinal products for human use, further provides that, where medicinal products are being promoted to persons qualified to prescribe or supply them, no gifts, pecuniary advantages or benefits in kind may be supplied, offered or promised to such persons unless they are inexpensive and relevant to the practice of medicine or pharmacy. This provision has been transposed into the Human Medicines Regulations 2012 and so remains applicable in the United Kingdom despite its departure from the EU.

Payments made to physicians in certain European Union Member States must be publicly disclosed. Moreover, agreements with physicians often must be the subject of prior notification and approval by the physician's employer, his or her competent professional organization, and/or the regulatory authorities of the individual European Union Member States. These requirements are provided in the national laws, industry codes, or professional codes of conduct applicable in the European Union Member States. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

Risks Related to Personnel, Operations, and Growth

Our future success depends on our ability to retain our Chief Executive Officer and other key executives and to attract, retain, and motivate qualified personnel.

We are highly dependent on Brian C. Thomas, our Chief Executive Officer as well as the other principal members of our management and scientific teams. Dr. Thomas and such other principal members are engaged "at will," meaning we or they may terminate the relationship at any time. We do not maintain "key person" insurance for any of our executives or other employees. The loss of the services of any of these persons could impede the achievement of our research, development and commercialization objectives. For us to successfully compete and grow, we must recruit, retain, and develop talent who can provide the necessary expertise across a broad spectrum of disciplines. In addition, we must develop, maintain and, as necessary, implement appropriate succession plans to ensure we have the necessary human capital capable of maintaining continuity in our business.

Recruiting and retaining qualified scientific, clinical, manufacturing and sales and marketing personnel will also be critical to our success. In addition, our company-building efforts and establishment of a company culture will also be important to developing an innovative company in a high-evolving area. We may not be able to succeed in these efforts to build Metagenomi as an attractive and exciting place to build a career or to attract and retain these types of personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors, including our scientific co-founders, may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us. We may also encounter problems hiring and retaining the

experienced scientific, quality control and manufacturing personnel needed to manage our manufacturing process, which could result in delays in our production or difficulties in maintaining compliance with applicable regulatory requirements. The inability to recruit, or loss of services of, certain executives, key employees, consultants or advisors, may impede the progress of our research, development and commercialization objectives and have a material adverse effect on our business, financial condition, results of operations and prospects.

We expect to expand our research, development, delivery, manufacturing, commercialization, regulatory, and future sales and marketing capabilities over time, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.

We may fail to manage our growth effectively. As of September 30, 2023, we had 223 full-time employees, of which 74 have M.D. or Ph.D. degrees. Within our workforce, 187 employees are engaged in research and development and 36 are engaged in business development, finance, legal, and general management and administration. In connection with the growth and advancement of our pipeline and becoming a public company, we expect to increase the number of our employees and the scope of our operations, particularly in the areas of research and clinical development, regulatory affairs and, if any of our future product candidates receive regulatory approval, sales and marketing. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities, and continue to recruit and train additional qualified personnel. Due to our limited financial resources and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expected expansion of our operations or recruit and train additional qualified personnel. Moreover, the expected physical expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

As a growing biotechnology company, we are actively developing our platform technology and pursuing development of future product candidates in many therapeutic areas and across a wide range of diseases. Successfully developing product candidates for and fully understanding the regulatory and manufacturing pathways to all of these therapeutic areas and disease states requires a significant depth of talent, resources and corporate processes in order to allow simultaneous execution across multiple areas. We will need to transition from a company with a research focus to a company capable of conducting clinical trials and ultimately supporting commercial activities if any of our product candidates are approved. We may not be successful in such a transition. Due to our limited resources, we may not be able to effectively manage this simultaneous execution and the expansion of our operations or recruit and train additional qualified personnel. This may result in weaknesses in our infrastructure, give rise to operational mistakes, legal or regulatory compliance failures, loss of business opportunities, loss of employees and reduced productivity among remaining employees. The physical expansion of our operations may lead to significant costs and may divert financial resources from other projects, such as the development of our potential product candidates. If our management is unable to effectively manage our expected development and expansion, our expenses may increase more than expected, our ability to generate or increase our revenue could be reduced and we may not be able to implement our business strategy. Our future financial performance and our ability to compete effectively and commercialize any product candidates we may develop will depend in part on our ability to effectively manage the future development and expansion of our company, and may prevent us from achieving or maintaining profitability. We cannot assure you that we will be able to compete effectively in the future against existing or new competitors, and our failure to do so could harm our business, financial condition, and results of operations.

Disruptions at the FDA and other government agencies caused by funding shortages or global health concerns could hinder their ability to hire, retain or deploy key leadership and other personnel, or otherwise prevent new or modified products from being developed, approved, or commercialized in a timely manner or at all, which could negatively impact our business.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, statutory, regulatory, and policy changes, the FDA's ability to hire and retain key personnel and accept the payment of user fees, and other events that may otherwise affect the FDA's ability to perform routine functions. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of other government agencies that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable. Disruptions at the FDA and other agencies may also slow the time necessary for biologics or modifications to approved biologics to be reviewed and/or approved by necessary government agencies, which would adversely affect our business.

Risks Related to Our Intellectual Property

Our commercial success depends on our ability to obtain, maintain, enforce, and otherwise protect our intellectual property and proprietary technology, and if the scope of the intellectual property protection obtained is not sufficiently broad, our competitors or other third parties could develop and commercialize products and product candidates similar to ours and our ability to successfully develop and commercialize our genome editing systems may be adversely affected.

Our commercial success depends, in large part, on our ability to obtain and maintain intellectual property rights protection through patents, trademarks, and trade secrets in the United States and other countries with respect to our proprietary genome editing systems. If we do not adequately protect our intellectual property rights, competitors or other third parties may be able to erode, negate or preempt any competitive advantage we may have, which could harm our business and ability to achieve profitability. To protect our proprietary position, we have filed patent applications and may file other patent applications in the United States or abroad related to our genome editing systems that are important to our business; we may also license or purchase patents or patent applications filed by others. The patent application process is expensive, time-consuming and complex. We may not be able to file, prosecute, maintain, enforce or license all necessary or desirable patent applications at a reasonable cost or in a timely manner.

We may not be able to obtain patents on certain inventions if those inventions are publicly disclosed prior to our filing a patent application covering them. We enter into nondisclosure and confidentiality agreements with parties who have access to confidential information, including confidential information regarding inventions not yet disclosed in patent applications. We cannot guarantee that any of these parties will not breach these confidentiality agreements and publicly disclose any of our inventions before a patent application is filed covering such inventions. If such confidential information is publicly disclosed, we may not be able to successfully patent it and consequently, we may not be able to prevent third parties from using such inventions.

If the scope of the patent protection we obtain is not sufficiently broad, we may not be able to prevent others from developing and commercializing technology and products similar or identical to ours. The degree of patent protection we require to successfully compete in the marketplace may be unavailable or severely limited in some cases and may not adequately protect our rights or permit us to gain or keep any competitive advantage. We cannot provide any assurances that any of our patents have, or that any of our pending owned patent applications that mature into issued patents will include claims with a scope sufficient to protect our proprietary genome editing systems or otherwise provide any competitive advantage. Other parties have developed or may develop technologies that may be related or competitive with our approach, and may have

filed or may file patent applications and may have been issued or may be issued patents with claims that overlap or conflict with our patent portfolio, either by claiming the same compounds, formulations or methods or by claiming subject matter that could dominate our patent position. In addition, the laws of foreign countries may not protect our rights to the same extent as the laws of the United States. Furthermore, patents have a limited lifespan. In the United States, the natural expiration of a patent is generally twenty years after it is filed. Various extensions may be available; however, the life of a patent, and the protection it affords, is limited. Given the amount of time required for the development, testing and regulatory review of new genome editing systems, patents protecting such genome editing systems might expire before or shortly after such genome editing systems are commercialized. As a result, our patent portfolio may not provide us with adequate and continuing patent protection sufficient to exclude others from commercializing products similar or identical to ours.

Even if they are unchallenged, our owned patents and pending patent applications, if issued, may not provide us with any meaningful protection or prevent competitors from designing around our patent claims to circumvent our patent portfolio by developing similar or alternative genome editing systems in a non-infringing manner. For example, a third party may develop a genome editing system that provides benefits similar to our genome editing systems but falls outside the scope of our patent protection or license rights. If the patent protection provided by the patent and patent applications we hold or pursue with respect to our genome editing systems is not sufficiently broad to impede such competition, our ability to successfully commercialize our product genome editing systems could be negatively affected, which would harm our business.

We, or any future partners, collaborators, or licensees, may fail to identify patentable aspects of inventions made in the course of development and commercialization activities before it is too late to obtain patent protection on them. Therefore, we may miss potential opportunities to strengthen our patent position.

It is possible that defects of form in the preparation or filing of our patent portfolio may exist, or may arise in the future, for example with respect to proper priority claims, inventorship, claim scope, or requests for patent term adjustments. If we or our partners, collaborators, or licensees whether current or future, fail to establish, maintain or protect such patents and other intellectual property rights, such rights may be reduced or eliminated. If our partners, collaborators, or licensees are not fully cooperative or disagree with us as to the prosecution, maintenance or enforcement of any patent rights, such patent rights could be compromised. If there are material defects in the form, preparation, prosecution, or enforcement of our patent portfolio, such patents may be invalid and/or unenforceable, and such applications may never result in valid, enforceable patents. Periodic maintenance fees, renewal fees, annuity fees and various other government fees on patents and/or applications will be due to be paid to the U.S. Patent and Trademark Office (“USPTO”) and various government patent agencies outside of the United States over the lifetime of our owned or licensed patents and patent applications. We rely on our outside counsel or our licensing partners to pay these fees due to U.S. and non-U.S. patent agencies. The USPTO and various non-U.S. government patent agencies require compliance with several procedural, documentary, fee payment and other similar provisions during the patent application process. Any of these outcomes could impair our ability to prevent competition from third parties, which may have an adverse impact on our business.

The patent position of biotechnology and pharmaceutical companies carries uncertainty. In addition, the determination of patent rights with respect to genome editing technologies commonly involves complex legal and factual questions, which are dependent upon the current legal and intellectual property context, extant legal precedent and interpretations of the law by individuals. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are characterized by uncertainty.

Pending patent applications cannot be enforced against third parties practicing the technology claimed in such applications unless and until a patent issues from such applications. Assuming the other requirements for

patentability are met, currently, the first to file a patent application is generally entitled to the patent. However, prior to March 16, 2013, in the United States, the first to invent was entitled to the patent. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are not published until 18 months after filing, or in some cases not at all. Therefore, we cannot be certain that we were the first to make the inventions claimed in our patent portfolio, or that we were the first to file for patent protection of such inventions. If third parties have filed prior patent applications on inventions claimed in our patent portfolio that were filed on or before March 15, 2013, an interference proceeding in the United States can be initiated by such third parties to determine who was the first to invent any of the subject matter covered by our patent portfolio. If third parties have filed such prior applications after March 15, 2013, a derivation proceeding in the United States can be initiated by such third parties to determine whether our invention was derived from theirs.

Moreover, because the issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, our patents may be challenged in the courts or patent offices in the United States and abroad. There is no assurance that all the potentially relevant prior art relating to our patent portfolio has been found. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing or, in some cases, not at all. Therefore, we cannot know with certainty whether we were the first to make the inventions claimed in our patent portfolio, or that we were the first to file for patent protection of such inventions. If such prior art exists, it may be used to invalidate a patent, or may prevent a patent from issuing from a pending patent application. For example, such patent filings may be subject to a third-party submission of prior art to the USPTO, or to other patent offices around the world. Alternately or additionally, we may become involved in post-grant review procedures, oppositions, derivation proceedings, ex parte reexaminations, inter partes review, supplemental examinations, or interference proceedings or challenges before the USPTO or in district court in the United States, or similar proceedings in various foreign jurisdictions, including both national and regional, challenging patents or patent applications in which we have rights, including patents on which we rely to protect our business. An adverse determination in any such challenges may result in loss of the patent or claims in the patent portfolio being narrowed, invalidated or held unenforceable, in whole or in part, or in denial of the patent application or loss or reduction in the scope of one or more claims of the patent portfolio, any of which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and products.

Pending and future patent applications may not result in patents being issued that protect our business, in whole or in part, or which effectively prevent others from commercializing competitive products. Competitors may also be able to design around our patents. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our patents or narrow the scope of our patent protection. In addition, the laws of foreign countries may not protect our rights to the same extent or in the same manner as the laws of the United States. For example, patent laws in various jurisdictions, including jurisdiction covering significant commercial markets, such as the European Patent Office, China, and Japan, restrict the patentability of methods of treatment of the human body more than United States law does. If these developments were to occur, they could have a material adverse effect on our ability to generate revenue.

The patent application process is subject to numerous risks and uncertainties, and there can be no assurance that we or any of our future development partners will be successful in protecting our genome editing systems by obtaining and defending patents. These risks and uncertainties include the following:

- the USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other provisions during the patent process. There are situations in which noncompliance, whether intentional or not, can result in abandonment or lapse of a patent or patent

application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, competitors might be able to enter the market earlier than would otherwise have been the case;

- patent applications may not result in any patents being issued;
- Company-owned or in-licensed patents that have been issued or may be issued in the future may be challenged, invalidated, modified, revoked, circumvented, found to be unenforceable or otherwise may not provide any competitive advantage;
- our competitors, many of whom have substantially greater resources and many of whom have made significant investments in competing technologies, may seek or may have already obtained patents that will limit, interfere with or eliminate our ability to make, use, and sell our genome editing systems;
- there may be significant pressure on the U.S. government and international governmental bodies to limit the scope of patent protection both inside and outside the United States for disease treatments that prove successful, as a matter of public policy regarding worldwide health concerns;
- countries other than the United States may have patent laws less favorable to patentees than those upheld by U.S. courts, allowing foreign competitors a better opportunity to create, develop and market competing products; and
- countries other than the U.S. may, under certain circumstances, force us to grant a license under our patents to a competitor, thus allowing the competitor to compete with us in that jurisdiction or forcing us to lower the price of our drug in that jurisdiction.

Issued patents that we have or may obtain or license may not provide us with any meaningful protection, prevent competitors from competing with us or otherwise provide us with any competitive advantage. Our competitors may be able to circumvent our patents by developing similar or alternative technologies or products in a non-infringing manner. Our competitors may also seek approval to market their own products similar to or otherwise competitive with our products. In these circumstances, we may need to defend or assert our patents, or both, including by filing lawsuits alleging patent infringement. In any of these types of proceedings, a court or other agency with jurisdiction may find our patents invalid or unenforceable, or that our competitors do not infringe our patents. Thus, even if we have valid and enforceable patents, these patents still may not provide protection against competing products or processes sufficient to achieve our business objectives.

We maintain certain information as company trade secrets. This information may relate to inventions that are not patentable or not optimally protected with patents. We use commercially acceptable practices to protect this information, including, for example, limiting access to the information and requiring passwords for our computers. Additionally, we execute confidentiality agreements with any third parties to whom we may provide access to the information and with our employees, consultants, scientific advisors, collaborators, vendors, contractors, and advisors. We cannot provide any assurances that all such agreements have been duly executed, and third parties may still obtain this information or may come upon this or similar information independently. It is possible that technology relevant to our business will be independently developed by a person who is not a party to such a confidentiality or invention assignment agreement. If any of our trade secrets were to be independently developed by a competitor or other third party, we would have no right to prevent such competitor or third party, or those to whom they communicate such independently developed information, from using that information to compete with us. We may not be able to prevent the unauthorized disclosure or use of our technical knowledge or trade secrets by contract manufacturers, consultants, collaborators, vendors, advisors, former employees and current employees. Monitoring unauthorized uses and disclosures is difficult and we do not know whether the steps we have taken to protect our proprietary technologies will be effective. Furthermore, if the parties to our confidentiality agreements

breach or violate the terms of these agreements, we may not have adequate remedies for any such breach or violation, and we could lose our trade secrets as a consequence of such breaches or violations. Our trade secrets could otherwise become known or be independently discovered by our competitors. Additionally, if the steps taken to maintain our trade secrets are deemed inadequate, we may have insufficient recourse against third parties for misappropriating our trade secrets. If any of these events occurs or if we otherwise lose protection for our trade secrets, our business, financial condition, results of operation and prospects may be materially and adversely harmed.

It is difficult and costly to protect our intellectual property and our proprietary technologies, and we may not be able to ensure their protection.

Our commercial success will depend in part on obtaining and maintaining patent protection and trade secret protection for our proprietary genome editing systems, as well as on successfully defending these patents against potential third-party challenges. Our ability to protect our genome editing systems from unauthorized making, using, selling, offering to sell or importing by third parties is dependent on the extent to which we have rights under valid and enforceable patents that cover these activities.

The patent positions of pharmaceutical, biotechnology and other life sciences companies can be highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved and have in recent years been the subject of much litigation. Changes in either the patent laws or in interpretations of patent laws in the United States and other countries may diminish the value of our intellectual property. Over the past decade, U.S. federal courts have increasingly invalidated pharmaceutical and biotechnology patents during litigation often based on changing interpretations of patent law. Further, the determination that a patent application or patent claim meets all the requirements for patentability is a subjective determination based on the application of law and jurisprudence. The ultimate determination by the USPTO or by a court or other trier of fact in the United States, or corresponding foreign national patent offices or courts, on whether a claim meets all requirements of patentability cannot be assured. Although we have conducted searches for third-party publications, patents and other information that may affect the patentability of claims in our patent portfolio, we cannot be certain that all relevant information has been identified. Accordingly, we cannot predict the breadth of claims that may be allowed or enforced in our own patent portfolio.

We cannot provide assurances that any of our patent applications will be found to be patentable, including over our own prior art publications or patent literature, or will issue as patents. Neither can we make assurances as to the scope of any claims that may issue from our pending and future patent applications nor to the outcome of any proceedings by any potential third parties that could challenge the patentability, validity or enforceability of our patent portfolio in the United States or foreign jurisdictions. Any such challenge, if successful, could limit patent protection for our genome editing systems and/or materially harm our business.

In addition to challenges during litigation, third parties can challenge the validity of our patents in the United States using post-grant review and inter partes review proceedings, which some third parties have been using to cause the cancellation of selected or all claims of issued patents of competitors. For a patent filed March 16, 2013 or later, a petition for post-grant review can be filed by a third party in a nine-month window from issuance of the patent. A petition for inter partes review can be filed immediately following the issuance of a patent if the patent has an effective filing date prior to March 16, 2013. A petition for inter partes review can be filed after the nine-month period for filing a post-grant review petition has expired for a patent with an effective filing date of March 16, 2013 or later. Post-grant review proceedings can be brought on any ground of invalidity, whereas inter partes review proceedings can only raise an invalidity challenge based on published prior art and patents. These adversarial actions at the USPTO review patent claims without the presumption of validity afforded to U.S. patents in lawsuits in U.S. federal courts and use a lower burden of proof than used in litigation in U.S. federal courts. Therefore, it is generally

considered easier for a competitor or third party to have a U.S. patent invalidated in a USPTO post-grant review or inter partes review proceeding than invalidated in a litigation in a U.S. federal court. If any of our patents are challenged by a third party in such a USPTO proceeding, there is no guarantee that we will be successful in defending the patent, which may result in a loss of the challenged patent right to us.

The degree of future protection for our proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. For example:

- we may not be able to generate sufficient data to support full patent applications that protect the entire breadth of developments in one or more of our programs;
- it is possible that one or more of our pending patent applications will not become an issued patent or, if issued, that the patent(s) claims will have sufficient scope to protect our technology, provide us with commercially viable patent protection or provide us with any competitive advantages;
- if our pending applications issue as patents, they may be challenged by third parties as invalid or unenforceable under United States or foreign laws;
- we may not successfully commercialize our genome editing systems, if approved, before our relevant patents expire;
- we may not be the first to make the inventions covered by our patent portfolio; or
- we may not develop additional proprietary technologies or genome editing systems that are separately patentable.

In addition, to the extent that we are unable to obtain and maintain patent protection for our genome editing systems, or in the event that such patent protection expires, it may no longer be cost-effective to extend our portfolio by pursuing additional development of any of our genome editing systems for follow-on indications.

Patent terms may be inadequate to protect our competitive position on our products for an adequate amount of time.

Patents have a limited lifespan. In the United States, if all maintenance fees are timely paid, the natural expiration of a patent is generally 20 years from its earliest U.S. non-provisional filing date. The patent term of a U.S. patent may be lengthened by patent term adjustment, which compensates a patentee for administrative delays by the United States Patent and Trademark Office in granting a patent, or may be shortened if a patent is terminally disclaimed over an earlier-filed patent.

Various extensions may be available, but the life of a patent, and the protection it affords, is limited. Given the amount of time required for the development, testing and regulatory review of new genome editing systems, patents protecting such genome editing systems might expire before or shortly after such genome editing systems are commercialized.

In the United States, the Drug Price Competition and Patent Term Restoration Act of 1984 permits a Patent Term Extension (“PTE”) of up to five years beyond the normal expiration of the patent to compensate patent owners for loss of enforceable patent term due to the lengthy regulatory approval process. A PTE grant cannot extend the remaining term of a patent beyond a total of 14 years from the date of the product approval. Further, PTE may only be applied once per product, and only with respect to an approved indication—in other words, only one patent (for example, covering the product itself, an approved use of said product, or a method of manufacturing said product) can be extended by PTE. We anticipate applying for PTE in the United States. Similar extensions may be available in other countries where we are prosecuting patents and we likewise anticipate applying for such extensions.

The granting of such patent term extensions is not guaranteed and is subject to numerous requirements. We might not be granted an extension because of, for example, failure to apply within applicable periods, failure to apply prior to the expiration of relevant patents or otherwise failure to satisfy any of the numerous applicable requirements. In addition, to the extent we wish to pursue patent term extension based on a patent that we in-license from a third party, we would need the cooperation of that third party. Moreover, the applicable authorities, including the FDA and the USPTO in the United States, and any equivalent regulatory authority in other countries, may not agree with our assessment of whether such extensions are available, and may refuse to grant extensions to our patents, or may grant more limited extensions than we request. If this occurs, our competitors may be able to obtain approval of competing products following our patent expiration by referencing our clinical and preclinical data and launch their product earlier than might otherwise be the case. If this were to occur, it could have a material adverse effect on our ability to generate revenue.

Changes in the interpretation of patent law in the United States and other jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect our products.

The United States Congress is responsible for passing laws establishing patentability standards. As with any laws, implementation is left to federal agencies and the federal courts based on their interpretations of the laws. Interpretation of patent standards can vary significantly within the USPTO, and across the various federal courts, including the U.S. Supreme Court. Recently, the Supreme Court has ruled on several patent cases, generally limiting the types of inventions that can be patented. Further, there are open questions regarding interpretation of patentability standards that the Supreme Court has yet to decisively address. Absent clear guidance from the Supreme Court, the USPTO has become increasingly conservative in its interpretation of patent laws and standards.

In addition to increasing uncertainty with regard to our ability to obtain patents in the future, the legal landscape in the U.S. has created uncertainty with respect to the value of patents. Depending on any actions by Congress, and future decisions by the lower federal courts and the U.S. Supreme Court, along with interpretations by the USPTO, the laws and regulations governing patents could change in unpredictable ways and could weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future.

The U.S. Supreme Court has ruled on several patent cases in recent years; these cases often narrow the scope of patent protection available to inventions in the biotechnology and pharmaceutical spaces. For example, in *Association for Molecular Pathology v. Myriad Genetics, Inc.* (“*Myriad*”), the Supreme Court ruled that a “naturally occurring DNA segment is a product of nature and not patent eligible merely because it has been isolated,” and invalidated Myriad Genetics’ claims on the isolated BRCA1 and BRCA2 genes. Certain claims of our patent portfolio relate to genome editing systems. While we believe that our proprietary genome editing systems involve significant human intervention, components of the system, such as the isolated nucleases with no modifications, are derived from naturally-occurring products. To the extent that such claims are deemed to be directed to natural products, or to lack an inventive concept above and beyond an isolated natural product, a court may decide the claims are directed to patent-ineligible subject matter and are invalid. The application of *Myriad* to biotechnology inventions has continued to develop and may continue to change over time. Subsequent rulings in cases or guidance or procedures issued by the USPTO relating to patent eligibility may have a negative impact on our business.

In *Amgen Inc. v. Sanofi* (“*Amgen*”), the U.S. Supreme Court held that certain of Amgen’s patent claims defined a class of antibodies by their function of binding to a particular antigen. The U.S. Supreme Court further wrote that because the patent claims defined the claimed class of antibodies only by their function of binding to a particular antigen, a skilled artisan would have to use significant trial and error to identify and make all of the molecules in that class. The U.S. Supreme Court ultimately held that Amgen failed to properly enable its patent

claims. Certain claims of our patent portfolio relate to broad classes of gene editors. To the extent that a court finds that the skilled artisan would need significant trial and error to identify all the gene editors in that class, the court may find the claims invalid under *Amgen*. Depending on future actions by the U.S. Congress, the U.S. courts, the USPTO and the relevant law-making bodies in other countries, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future.

Further, a new court system recently became operational in the European Union. The Unified Patent Court ("UPC") began accepting patent cases on June 1, 2023. The UPC is a common patent court with jurisdiction over patent infringement and revocation proceedings effective for multiple member states of the European Union. The broad geographic reach of the UPC could enable third parties to seek revocation of any of our European patents in a single proceeding at the UPC rather than through multiple proceedings in each of the individual European Union member states in which the European patent is validated. Under the UPC, a successful revocation proceeding for a European Patent under the UPC would result in loss of patent protection in those European Union countries. Accordingly, a single proceeding under the UPC could result in the partial or complete loss of patent protection in numerous European Union countries. Such a loss of patent protection could have a material adverse impact on our business and our ability to commercialize our technology and product candidates and, resultantly, on our business, financial condition, prospects and results of operations. Moreover, the controlling laws and regulations of the UPC will develop over time and we cannot predict what the outcomes of cases tried before the UPC will be. The case law of the UPC may adversely affect our ability to enforce or defend the validity of our European patents. Patent owners have the option to opt-out their European Patents from the jurisdiction of the UPC, defaulting to pre-UPC enforcement mechanisms. We have decided to opt out certain European patents and patent applications from the UPC. However, if certain formalities and requirements are not met, our European patents and patent applications could be subject to the jurisdiction of the UPC. We cannot be certain that our European patents and patent applications will avoid falling under the jurisdiction of the UPC, if we decide to opt out of the UPC.

We may not be able to seek or obtain patent protection throughout the world or enforce such patent protection once obtained.

Filing, prosecuting, enforcing, and defending patents protecting our genome editing systems in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. The requirements for patentability may differ in certain countries, particularly in developing countries; thus, even in countries where we do pursue patent protection, there can be no assurance that any patents will issue with claims that cover our products.

Moreover, our ability to protect and enforce our intellectual property rights may be adversely affected by unforeseen changes in foreign intellectual property laws. Additionally, laws of some countries outside of the United States and Europe do not afford intellectual property protection to the same extent as the laws of the United States and Europe. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. This could make it difficult for us to stop the infringement of our patents or the misappropriation of our other intellectual property rights. For example, many foreign countries have compulsory licensing laws under which a patent owner must grant licenses to third parties. Consequently, we may not be able to prevent third parties from practicing our inventions in certain countries outside the United States and Europe or from selling or importing products made from our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop and market their own products and, further, may export otherwise infringing products to territories where we have patent protection, if our ability to enforce our patents to stop infringing activities is inadequate. These products may compete with our products, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Proceedings to enforce our patent rights, whether successful or not, could result in substantial costs and divert our efforts and resources from other aspects of our business. Further, such proceedings could put our patents at risk of being invalidated, held unenforceable or interpreted narrowly; put our pending patent applications at risk of not issuing; and provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. Furthermore, while we intend to protect our intellectual property rights in major markets for our products, we cannot ensure that we will be able to initiate or maintain similar efforts in all jurisdictions in which we may wish to market our products, if approved. Accordingly, our efforts to protect our intellectual property rights in such countries may be inadequate.

In order to protect our competitive position around our future product candidates, we may become involved in lawsuits to enforce our patents or other intellectual property, which could be expensive, time consuming and unsuccessful and which may result in our patents being found invalid or unenforceable.

Competitors may seek to commercialize competitive products to our genome editing systems. In order to protect our competitive position, we may become involved in lawsuits asserting infringement of our patents, or misappropriation or other violations of other of our intellectual property rights. Litigation is expensive and time consuming and would likely divert the time and attention of our management and scientific personnel. There can be no assurance that we will have sufficient financial or other resources to file and pursue such infringement claims, which typically last for years before they are concluded. Even if we ultimately prevail in such claims, the monetary cost of such litigation and the diversion of the attention of our management and scientific personnel could outweigh any benefit we receive as a result of the proceedings.

If we file a patent infringement lawsuit against a perceived infringer, such a lawsuit could provoke the defendant to counterclaim that we infringe their patents and/or that our patents are invalid and/or unenforceable. In patent litigation in the United States, it is commonplace for a defendant to counterclaim alleging invalidity and/or unenforceability. In any patent litigation there is a risk that a court will decide that the asserted patents are invalid or unenforceable, in whole or in part, and that we do not have the right to stop the defendant from using the invention at issue. With respect to a counterclaim of invalidity, we cannot be certain that there is no invalidating prior art of which we and the patent examiner were unaware during prosecution. There is also a risk that, even if the validity of such patents is upheld, the court will construe the patent claims narrowly or decide that we do not have the right to stop the other party from using the invention at issue on the grounds that our patent claims do not cover the invention. If any of our patents are found invalid or unenforceable, or construed narrowly, our ability to stop the other party from launching a competitive product would be materially impaired. Further, such adverse outcomes could limit our ability to assert those patents against future competitors. Loss of patent protection would have a material adverse impact on our business.

Even if we establish infringement of any of our patents by a competitive product, a court may decide not to grant an injunction against further infringing activity, thus allowing the competitive product to continue to be marketed by the competitor. It is difficult to obtain an injunction in U.S. litigation and a court could decide that the competitor should instead pay us a “reasonable royalty” as determined by the court, and/or other monetary damages. A reasonable royalty or other monetary damages may or may not be an adequate remedy. Loss of exclusivity and/or competition from a related product would have a material adverse impact on our business.

Litigation often involves significant amounts of public disclosures. Such disclosures could have a materially adverse impact on our competitive position or our stock prices. During any litigation we would be required to produce voluminous records related to our patents and our research and development activities in a process called discovery. The discovery process may result in the disclosure of some of our confidential information. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could adversely affect the price of our common shares.

Litigation is inherently expensive, and the outcome is often uncertain. Any litigation likely would substantially increase our operating losses and reduce our resources available for development activities. Further, we may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. As a result, we may conclude that even if a competitor is infringing any of our patents, the risk-adjusted cost of bringing and enforcing such a claim or action may be too high or not in the best interest of our company or our stockholders. In such cases, we may decide that the more prudent course of action is to simply monitor the situation or initiate or seek some other non-litigious action or solution.

If in the future, we in-license any patent rights, we may not have the right to file a lawsuit for infringement and may have to rely on a licensor to enforce these rights for us. If we are not able to directly assert our licensed patent rights against infringers or if a licensor does not vigorously prosecute any infringement claims on our behalf, we may have difficulty competing in certain markets where such potential infringers conduct their business, and our commercialization efforts may suffer as a result.

Concurrently with an infringement litigation, third parties may also be able to challenge the validity of our patents before administrative bodies in the United States or abroad. Such mechanisms include re-examination, post grant review and equivalent proceedings in foreign jurisdictions, e.g., opposition proceedings. Such proceedings could result in revocation or amendment of our patents in such a way that they no longer cover our products, potentially negatively impacting any concurrent litigation.

If we are sued for infringing intellectual property rights of third parties, such litigation could be costly and time consuming and could prevent or delay us from developing or commercializing our genome editing systems.

Our commercial success depends, in part, on our ability to develop, manufacture, market and sell our genome editing systems without infringing, misappropriating or otherwise violating the intellectual property and other proprietary rights of third parties. However, our research, development and commercialization activities may be subject to claims that we infringe, misappropriate or otherwise violate patents or other intellectual property rights owned or controlled by third parties. Third parties may have U.S. and non-U.S. issued patents and pending patent applications relating to compounds, methods of manufacturing compounds and/or methods of use for the treatment of the disease indications for which we are developing our genome editing systems. If any third-party patents or patent applications are found to cover our genome editing systems, or their methods of use or manufacture, we may not be free to manufacture or market such genome editing systems as planned without obtaining a license, which may not be available on commercially reasonable terms, or at all.

There is a substantial amount of intellectual property litigation in the biotechnology and pharmaceutical industries, and we may become party to, or threatened with, litigation or other adversarial proceedings regarding intellectual property rights with respect to our genome editing systems, including patent infringement lawsuits in the U.S. or abroad. There may be third-party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the composition, use or manufacture of our genome editing systems. Third parties may assert infringement claims against us based on existing patents that they own or in-license or patents that may grant to them (or which they may in-license) in the future, regardless of the merit of such patents or infringement claims. If our defenses to such assertions of infringement were unsuccessful, we could be liable for a court-determined reasonable royalty on our existing sales and further damages to the patent owner (or licensee), such as lost profits. Such royalties and damages could be significant. If we are found to have willfully infringed the claims of a third party's patent, the third party could be awarded treble damages and attorney's fees. Further, unless we obtain a license to such patent, we may be precluded from commercializing the infringing genome editing system. Any of the aforementioned could have a material adverse effect on our business, financial condition, results of operations and prospects.

While we perform periodic searches for relevant patents and patent applications with respect to our genome editing systems, including Cas proteins and therapeutic applications, we cannot guarantee the completeness or thoroughness of any of our patent searches or analyses including, but not limited to, the identification of relevant patents, the scope of patent claims or the expiration of relevant patents, nor can we be certain that we have identified each and every patent and pending application in the United States and abroad that is relevant to or necessary for the commercialization of any of our genome editing systems in any jurisdiction. Because patent applications can take many years to issue, there may be currently pending patent applications which may later result in issued patents that any of our genome editing systems may be accused of infringing. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. Accordingly, third parties may assert infringement claims against us based on intellectual property rights that exist now or arise in the future. The outcome of intellectual property litigation is subject to uncertainties that cannot be adequately quantified in advance. The pharmaceutical and biotechnology industries have produced a significant number of patents, and it may not always be clear to industry participants, including us, which patents cover various types of products or methods of use or manufacture. The scope of protection afforded by a patent is subject to interpretation by the courts, and the interpretation is not always uniform. If we were sued for patent infringement, we would need to demonstrate that the relevant product or methods of using the product either do not infringe the patent claims of the relevant patent or that the patent claims are invalid or unenforceable, and we may not be able to do this. Proving invalidity is difficult. For example, in the United States, proving invalidity requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents. Even if we are successful in these proceedings, we may incur substantial costs and the time and attention of our management and scientific personnel could be diverted in pursuing these proceedings, which could significantly harm our business and operating results. In addition, parties making claims against us may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources, and we may not have sufficient resources to bring these actions to a successful conclusion.

Numerous third-party U.S. and foreign issued patents and pending patent applications exist in the fields in which we are developing genome editing systems. Our genome editing systems make use of CRISPR-based technology, which is a field that is highly active for patent filings and complex litigation. As of June 2019, it was reported that approximately 2072 patent families worldwide related to CRISPR genome editing inventions and their uses. That number has continued to increase. The extensive patent filings related to CRISPR make it difficult for us to assess the full extent of relevant patents and pending applications that may cover our genome editing systems and their use or manufacture. There may be third-party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our genome editing systems. We are aware of multiple patents and patent applications directed to CRISPR technologies, Cas molecules, and their uses in genome editing. For example, we are aware of patent portfolios related to CRISPR/Cas genome editing systems that are owned or co-owned by Sigma Aldrich, Stanford University and Agilent Technologies, the Broad Institute and/or Harvard University and/or the Massachusetts Institute of Technology (“MIT”), and Targetgene Biotechnologies. We are also aware of patent portfolios related to base editing systems that are owned or co-owned by Beam Therapeutics, the Broad Institute and/or Harvard University and/or MIT, the University of California, Duke University, Kobe University, the Max Planck Institute, Wageningen University, and Bioray Laboratories. We are also aware of patent portfolios related to CRISPR associated transposase/retro-transposase (“CAST”) systems that are owned or co-owned by the Broad Institute, Arbor Biotechnologies, and the University of Rochester.

Intellectual property litigation is common in the biotechnology space and multiple parties have engaged in litigation to protect and enforce their CRISPR/Cas related patent estates. For example, patents and patent applications directed to catalytically-active Cas9 systems have been the subject of extensive adversarial patent office proceedings. These proceedings include U.S. Patent and Trademark Office Patent Trial and Appeal Board

("PTAB") proceedings involving the Broad Institute and the University of California regarding the priority of inventions with respect to certain U.S. patents and patent applications each owns directed to catalytically-active Cas9. Our genome editing technologies do not use catalytically-active Cas9 and we are not aware of any third-party patents or patent applications that we believe cover our Cas-related genome editing system and proprietary technology. However, we may not have identified all relevant third-party patents and patent applications. Therefore, there can be no assurance that third parties will not assert patents against us in the future or that our patents and patent applications will not be challenged. Any litigation brought against us or our patents or patent applications, even if meritless, could have a material adverse effect on our business, financial condition, results of operations and prospects.

If we are found to infringe, misappropriate or otherwise violate a third party's intellectual property rights, we could be forced, including by court order, to cease developing, manufacturing or commercializing the infringing product. Alternatively, we may be required to obtain a license from such third party in order to use the infringing technology and continue developing, manufacturing or marketing the infringing product. If we were required to obtain a license to continue to manufacture or market the affected product, we may be required to pay substantial royalties or grant cross-licenses to our patents. Even if we were able to obtain a license, it could be nonexclusive, thereby giving our competitors and other third parties access to the same technologies licensed to us. We cannot assure you that any such license will be available on acceptable terms, if at all. Ultimately, we could be prevented from commercializing a product, or be forced to cease some aspect of our business operations as a result of claims of patent infringement or violation of other intellectual property rights, Further, the outcome of intellectual property litigation is subject to uncertainties that cannot be adequately quantified in advance, including the demeanor and credibility of witnesses and the identity of any adverse party. This is especially true in intellectual property cases that may turn on the testimony of experts as to technical facts upon which experts may reasonably disagree. Furthermore, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us; alternatively or additionally it could include terms that impede or destroy our ability to compete successfully in the commercial marketplace. In addition, we could be found liable for significant monetary damages, including treble damages and attorneys' fees if we are found to have willfully infringed a patent. A finding of infringement could prevent us from commercializing a product or force us to cease some of our business operations, which could harm our business. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation or administrative proceedings, there is a risk that some of our confidential information could be compromised by disclosure. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have material adverse effect on our ability to raise additional funds or otherwise have a material adverse effect on our business, results of operations, financial condition and prospects.

Others may challenge inventorship or claim an ownership interest in our intellectual property which could expose it to litigation and have a significant adverse effect on its prospects.

Determinations of inventorship can be subjective. While we undertake to accurately identify correct inventorship of inventions made on our behalf by our employees, consultants and contractors, an employee, consultant or contractor may disagree with our determination of inventorship and assert a claim of inventorship. Any disagreement over inventorship could result in our being forced to defend our determination of inventorship in a legal action which could result in substantial costs and be a distraction to our senior management and scientific personnel.

While we typically require employees, consultants and contractors who may develop intellectual property on our behalf to execute agreements assigning such intellectual property to us, we may be unsuccessful in obtaining

execution of assignment agreements with each party who in fact develops intellectual property that we regard as our own. Moreover, even when we obtain agreements assigning intellectual property to us, the assignment of intellectual property rights may not be self-executing or the assignment agreements may be breached. In either case, we may be forced to bring claims against third parties, or defend claims that they may bring against us, to determine the ownership of what we regard as our intellectual property. Furthermore, individuals executing agreements with us may have preexisting or competing obligations to a third party, such as an academic institution, and thus an agreement with us may be ineffective in perfecting ownership of inventions developed by that individual. If we are unsuccessful in obtaining assignment agreements from an employee, consultant or contractor who develops intellectual property on our behalf, the employee, consultant or contractor may later claim ownership of the invention. Any disagreement over ownership of intellectual property could result in our losing ownership, or exclusive ownership, of the contested intellectual property, paying monetary damages and/or being enjoined from clinical testing, manufacturing and marketing of the affected product candidate(s). Even if we are successful in prosecuting or defending against such claims, litigation could result in substantial costs and be a distraction to our senior management and scientific personnel.

We may be subject to claims by third parties asserting that our employees or we have misappropriated their intellectual property or claiming ownership of what we regard as our own intellectual property.

Many of our current and former employees and our licensors' current and former employees, including our senior management, were previously employed at universities or at other biotechnology or pharmaceutical companies, including some which may be competitors or potential competitors. Although we take commercially reasonable steps to ensure that our employees do not use the proprietary information, know-how or trade secrets of others in their work for us, including incorporating such intellectual property into our genome editing systems, we may be subject to claims that we or these employees have misappropriated the intellectual property of a third party.

If we or any of our employees are accused of misappropriating the proprietary information, know-how or trade secrets of a third party, we may be forced to defend such claims in litigation. If we are found to have misappropriated the intellectual property rights of a third party, we may be forced to pay monetary damages, sustain reputational damage, lose key personnel, or lose valuable intellectual property rights. Further, it may become necessary for us to obtain a license from such third party to commercialize any of our genome editing systems. Such a license may not be available on commercially reasonable terms or at all. Any of the aforementioned could materially affect the commercialization of any of our genome editing systems. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.

We consider proprietary trade secrets or confidential know-how and unpatented know-how to be important to our business. We may rely on trade secrets or confidential know-how to protect our technology, especially where patent protection is believed by us to be of limited value. We expect to rely on third parties for future manufacturing of our genome editing systems, and any future genome editing systems. We also expect to collaborate with third parties on the development of our genome editing systems and any future genome editing systems. As a result of the aforementioned collaborations, we must, at times, share trade secrets with our collaborators. We also conduct joint research and development programs that may require us to share trade secrets under the terms of our research and development partnerships or similar agreements.

Trade secrets or confidential know-how can be difficult to maintain as confidential. To protect this type of information against disclosure or appropriation by competitors, our policy is to require our employees, consultants, contractors and advisors to enter into confidentiality agreements and, if applicable, material

transfer agreements, consulting agreements or other similar agreements with us prior to beginning research or disclosing proprietary information. These agreements typically limit the rights of the third parties to use or disclose our confidential information, including our trade secrets. However, current or former employees, consultants, contractors and advisers may unintentionally or willfully disclose our confidential information to competitors, and confidentiality agreements may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. The need to share trade secrets and other confidential information increases the risk that such trade secrets become known by our competitors, are inadvertently incorporated into the technology of others, or are disclosed or used in violation of these agreements. Given that our proprietary position is based, in part, on our know-how and trade secrets, a competitor's discovery of our trade secrets or other unauthorized use or disclosure would impair our competitive position and may have an adverse effect on our business and results of operations. Enforcing a claim that a third party obtained illegally and is using trade secrets or confidential know-how is expensive, time consuming and unpredictable. The enforceability of confidentiality agreements may vary from jurisdiction to jurisdiction.

In addition, these agreements typically restrict the ability of our advisors, employees, third-party contractors and consultants to publish data potentially relating to our trade secrets, although our agreements may contain certain limited publication rights. Despite our efforts to protect our trade secrets, our competitors may discover our trade secrets, either through breach of our agreements with third parties, independent development or publication of information by any of our third-party collaborators. A competitor's discovery of our trade secrets would impair our competitive position and have an adverse impact on our business.

We may need to acquire or license additional intellectual property from third parties, and such licenses may not be available or may not be available on commercially reasonable terms.

A third party may hold intellectual property, including patent rights that are important or necessary to the development of our genome editing systems. It may be necessary for us to use the patented or proprietary technology of one or more third parties to commercialize our current and future product candidates.

The licensing and acquisition of third-party intellectual property rights is a competitive area, and a number of more established companies may pursue strategies to license or acquire third-party intellectual property rights that we may consider attractive. These established companies may have a competitive advantage over us due to their size, cash resources and greater clinical development. If we are unable to acquire such intellectual property outright, or obtain licenses to such intellectual property from such third parties when needed or on commercially reasonable terms, our ability to commercialize our genome editing systems, if approved, would likely be delayed or we may have to abandon development of that product genome editing systems or program and our business and financial condition could suffer.

If we in-license additional genome editing systems in the future, we might become dependent on proprietary rights from third parties with respect to those genome editing systems. Any termination of such licenses could result in the loss of significant rights and would cause material adverse harm to our ability to develop and commercialize any genome editing systems subject to such licenses. Even if we are able to in-license any such necessary intellectual property, it could be on nonexclusive terms, including with respect to the use, field or territory of the licensed intellectual property, thereby giving our competitors and other third parties access to the same intellectual property licensed to us. In-licensing IP rights could require us to make substantial licensing and royalty payments. Patents licensed to us could be put at risk of being invalidated or interpreted narrowly in litigation filed by or against our licensors or another licensee or in administrative proceedings. If any in-licensed patents are invalidated or held unenforceable, we may not be able to prevent competitors or other third parties from developing and commercializing competitive products.

We may not have the right to control the prosecution, maintenance, enforcement or defense of patents and patent applications that we license from third parties. In such cases, we would be reliant on the licensor to take

any necessary actions. We cannot be certain that such licensor would act with our best interests in mind, or in compliance with applicable laws and regulations, or that their actions would result in valid and enforceable patents. For example, it is possible that a licensor's actions in enforcing and/or defending a patent licensed by use may be less vigorous than had we conducted them ourselves. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

Disputes may also arise between us and our licensors regarding intellectual property subject to a license agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- our financial or other obligations under the license agreement;
- whether and the extent to which our technology and processes infringe intellectual property of the licensor that is not subject to the licensing agreement;
- our right to sublicense patent and other rights to third parties under collaborative development relationships;
- our diligence obligations with respect to the use of licensed technology in relation to our development and commercialization of our genome editing systems and what activities satisfy those diligence obligations;
- the ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners; and
- the priority of invention of patented technology.

If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected genome editing systems.

The risks described elsewhere pertaining to our intellectual property rights also apply to the intellectual property rights that we may own or in-license now or in the future, and any failure by us or our licensors to obtain, maintain, defend and enforce these rights could have an adverse effect on our business. In some cases we may not have control over the prosecution, maintenance or enforcement of the patents that we license, and may not have sufficient ability to provide input into the patent prosecution, maintenance and defense process with respect to such patents, and potential future licensors may fail to take the steps that we believe are necessary or desirable in order to obtain, maintain, defend and enforce the licensed patents.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our trademarks of interest and our business may be adversely affected.

Our trademarks or trade names may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. We rely on both registration and common law protection for our trademarks. As a means to enforce our trademark rights and prevent infringement, we may be required to file trademark claims against third parties or initiate trademark opposition proceedings. This can be expensive and time-consuming, particularly for a company of our size. We may not be able to protect our rights to these trademarks and trade names or may be forced to stop using these names, which we need for name recognition by potential partners or customers in our markets of interest. At times, competitors may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our registered or unregistered trademarks

or trade names. Over the long term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be adversely affected. During trademark registration proceedings, we may receive rejections. Although we would be given an opportunity to respond to those rejections, we may be unable to overcome such rejections. In addition, in the USPTO and in comparable agencies in many foreign jurisdictions, third parties are given an opportunity to oppose pending trademark applications and to seek to cancel registered trademarks. Opposition or cancellation proceedings may be filed against our trademarks, and our trademarks may not survive such proceedings. Moreover, any name we propose to use for our products in the United States must be approved by the FDA, regardless of whether we have registered it, or applied to register it, as a trademark. The FDA typically conducts a review of proposed product names, including an evaluation of potential for confusion with other product names. If the FDA objects to any of our proposed product names, we may be required to expend significant additional resources in an effort to identify a usable substitute name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA. If we are unable to establish name recognition based on our trademarks and trade names, we may not be able to compete effectively and our business may be adversely affected.

Intellectual property rights do not necessarily address all potential threats to our business.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our business, or permit us to maintain our competitive advantage. The following examples are illustrative:

- others may be able to make products that are competitive to our genome editing systems or any of our future genome editing systems but that are not covered by the claims of our patent portfolio;
- others may independently develop similar or alternative technologies or otherwise circumvent any of our technologies without infringing our patent portfolio;
- we or any of our collaborators might not have been the first to invent the inventions covered by our patent portfolio;
- we or any of our collaborators might not have been the first to file patent applications covering certain of the patents or patent applications that we or they own or have obtained a license, or will own or will have obtained a license;
- it is possible that our pending patent applications or those that we may file in the future will not lead to issued patents;
- others may have access to the same intellectual property rights licensed to us on a non-exclusive basis in the future;
- issued patents that we own may not provide us with any competitive advantage, or may be held invalid or unenforceable, including as a result of legal challenges by our competitors;
- our competitors might conduct research and development activities in countries where we do not have patent rights, or in countries where research and development safe harbor laws exist, and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- ownership of our patent portfolio may be challenged by third parties;
- the patents of third parties or pending or future applications of third parties, if issued, may have an adverse effect on our business;

- patent enforcement is expensive and time-consuming and difficult to predict; thus, we may not be able to enforce any of our patents against a competitor; and
- we may choose not to file a patent application for certain inventions, instead choosing to rely on trade secret protection, and a third party may subsequently file a patent covering such intellectual property.

Risks Related to the Offering, our Common Stock, and Operating as a Public Company

You will incur immediate and substantial dilution as a result of this offering.

If you purchase common stock in this offering, you will incur immediate and substantial dilution of $ per share, representing the difference between the assumed initial public offering price of $ per share, the estimated midpoint of the price range set forth on the cover page of this prospectus, and our pro forma as adjusted net tangible book value per share as of , 2023 after giving effect to this offering. To the extent the underwriters exercise their option to purchase additional shares or our restricted common stock issued in the Reorganization vests, you will incur further dilution. For a further description of the dilution you will experience immediately after this offering, see “Dilution.”

The market price of our common stock may be volatile, which could result in substantial losses for investors purchasing shares in this offering.

The initial public offering price for our common stock was determined through negotiations with the underwriters. This initial public offering price may vary from the market price of our common stock after the offering. As a result, you may not be able to sell your common stock at or above the initial public offering price. The market price for our common stock may be influenced by those factors discussed in this “Risk Factors” section and many others, some of which may include:

- the success of existing or new competitive product candidates or technologies;
- the timing and results of preclinical studies and clinical trials for any product candidates we may develop;
- failure or discontinuation of any of our development and research programs;
- results of any preclinical studies, clinical trials or regulatory approvals of product candidates of our competitors, or announcements about new research programs or product candidates of our competitors;
- developments or changing views regarding the use of genetic therapies, including those that involve genome editing;
- commencement or termination of collaborations for our product development and research programs;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents or other intellectual property or proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our research programs, clinical development programs or product candidates that we may develop;
- the results of our efforts to develop product candidates;

- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts, if any, that cover our stock;
- announcement or expectation of additional financing efforts;
- sales of our common stock by us, our insiders or other stockholders;
- expiration of market stand-off or lock-up agreements;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- general economic, industry and market conditions, including COVID-19 pandemic, the ongoing geopolitical conflict in Ukraine and the Israel-Hamas war, tensions in U.S.-China relations, rising interest rates and inflation; and
- the other factors described in this “Risk Factors” section.

In recent years, the stock market in general and the market for pharmaceutical and biotechnology companies in particular, has experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to changes in the operating performance of the companies whose stock is experiencing those price and volume fluctuations. In particular, in relation to uncertainty around inflation and the U.S. Federal Reserve’s measures to slow inflation, the stock market has been exceptionally volatile. Market and industry factors may seriously affect the market price of our common stock, regardless of our actual operating performance. These fluctuations may be even more pronounced in the trading market for our stock shortly following this offering. Following periods of such volatility in the market price of a company’s securities, securities class action litigation has often been brought against that company. Because of the potential volatility of our stock price, we may become the target of securities litigation in the future.

Securities litigation could result in substantial costs and divert management’s attention and resources from our business.

We have wide discretion in the use of the net proceeds from this offering and may not use them effectively.

We cannot specify with certainty the particular uses of the net proceeds we will receive from this offering. Our management will have wide discretion in the application of the net proceeds, including for any of the purposes described in “Use of Proceeds.” Accordingly, you will have to rely upon the judgment of our management with respect to the use of the proceeds, with only limited information concerning management’s specific intentions. Our management may spend a portion or all of the net proceeds from this offering in ways that our stockholders may not desire or that may not yield a favorable return. The failure by our management to apply these funds effectively could harm our business, financial condition, results of operations and prospects. Pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

We will incur increased costs as a result of operating as a public company, and our management will be required to devote substantial time to new compliance initiatives and corporate governance practices.

As a public company, and particularly after we are no longer an “emerging growth company,” we will incur significant legal, accounting and other expenses that we did not incur as a private company. The Sarbanes-Oxley Act of 2002 (“SOX”), the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of the Nasdaq Global Select Market and other applicable securities rules and regulations impose

various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. We expect that we will need to hire additional accounting, finance and other personnel in connection with our becoming, and our efforts to comply with the requirements of being, a public company. Our management and other personnel will need to devote a substantial amount of time towards maintaining compliance with these requirements. These requirements will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, we expect that the rules and regulations applicable to us as a public company may make it more difficult and more expensive for us to obtain director and officer liability insurance, which could make it more difficult for us to attract and retain qualified members of our board of directors. We are currently evaluating these rules and regulations and cannot predict or estimate the amount of additional costs we may incur or the timing of such costs. These rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

Pursuant to SOX Section 404, we will be required to furnish a report by our management on our internal control over financial reporting beginning with our second filing of an Annual Report on Form 10-K with the SEC after we become a public company. However, while we remain an emerging growth company, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with SOX Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants, adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that we will not be able to conclude, within the prescribed timeframe or at all, that our internal control over financial reporting is effective as required by SOX Section 404. This could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

We do not know whether a market will develop for our common stock or what the market price of our common stock will be, and, as a result, it may be difficult for you to sell your shares of our common stock.

Before this offering, there was no public trading market for our common stock. Although we have applied to list our common stock on the Nasdaq Global Select Market, an active trading market for our shares may never develop or be sustained following this offering. If a market for our common stock does not develop or is not sustained, it may be difficult for you to sell your shares of common stock at an attractive price or at all. We cannot predict the prices at which our common stock will trade. It is possible that in one or more future periods our results of operations may be below the expectations of public market analysts and investors, and, as a result of these and other factors, the price of our common stock may fall.

If securities analysts do not publish research or reports about our business or if they publish negative evaluations of our stock, the price of our stock could decline.

The trading market for our common stock will rely in part on the research and reports that industry or financial analysts publish about us or our business. We do not currently have and may never obtain research coverage by industry or financial analysts. If no or few analysts commence coverage of us, the trading price of our stock would likely decrease. Even if we do obtain analyst coverage, if one or more of the analysts covering our business downgrade their evaluations of our stock, the price of our stock could decline. If one or more of these analysts cease to cover our stock, we could lose visibility in the market for our stock, which in turn could cause our stock price to decline.

Future sales of our common stock in the public market could cause our stock price to fall.

Our stock price could decline as a result of sales of a large number of shares of our common stock after this offering or the perception that these sales could occur. These sales, or the possibility that these sales may occur, also might make it more difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate.

Upon completion of this offering, shares of our common stock will be outstanding (or shares of common stock will be outstanding assuming exercise in full of the underwriters' option to purchase additional shares), based on our shares outstanding as of , 2024. All shares of common stock expected to be sold in this offering will be freely tradable without restriction or further registration under the Securities Act of 1933, as amended (the "Securities Act"), unless held by our "affiliates," as that term is defined in Rule 144 under the Securities Act. The resale of the remaining , or approximately % of our outstanding shares after this offering, is currently prohibited or otherwise restricted as a result of securities law provisions, market standoff agreements entered into by our stockholders with us, profits interests agreements entered into by our employees with us, unit purchase agreement lock-ups, or lock-up agreements entered into by our stockholders with the underwriters. However, subject to applicable securities law restrictions and excluding shares of restricted common stock that will remain unvested, these shares will be able to be sold in the public market beginning 180 days after the date of this prospectus. Shares of unvested restricted common stock that were issued and outstanding as of the date of this prospectus will become available for sale immediately upon the vesting of such shares, as applicable, and the expiration of any applicable market stand-off or lock-up agreements. Shares issued upon the exercise of stock options pursuant to future awards that may be granted under our equity incentive plans or pursuant to future awards granted under those plans will become available for sale in the public market to the extent permitted by the provisions of applicable vesting schedules, any applicable market stand-off and lock-up agreements and Rule 144 and Rule 701 under the Securities Act. For more information see the section entitled "Shares Eligible for Future Sale" included elsewhere in this prospectus.

Upon completion of this offering, the holders of approximately shares, or approximately %, of our common stock, will have rights, subject to some conditions, to require us to file registration statements covering the sale of their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. We also intend to register the offer and sale of all shares of common stock that we may issue under our equity compensation plans. Once we register the offer and sale of shares for the holders of registration rights and shares to be issued under our equity incentive plans, they can be freely sold in the public market upon issuance, subject to the lock-up agreements described in the section entitled "Underwriting" included elsewhere in this prospectus.

In addition, in the future, we may issue additional shares of common stock or other equity or debt securities convertible into common stock in connection with a financing, acquisition, litigation settlement, employee arrangements or otherwise. Any such issuance could result in substantial dilution to our existing stockholders and could cause our stock price to decline.

We are an "emerging growth company" and the reduced disclosure requirements applicable to emerging growth companies may make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012 (the "JOBS Act"), and may remain an emerging growth company for up to five years. For so long as we remain an emerging growth company, we are permitted and plan to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include not being required to comply with the auditor attestation requirements of SOX Section 404, not being required to comply with any requirement for a supplement to the auditor's report providing

additional information about the audit and the financial statements, reduced disclosure obligations regarding executive compensation and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. As a result, the information we provide stockholders will be different than the information that is available with respect to other public companies. In this prospectus, we have not included all of the executive compensation related information that would be required if we were not an emerging growth company.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to avail ourselves of this exemption, and, therefore, while we are an emerging growth company we will not be subject to the new or revised accounting standards at the same time that they become applicable to other public companies that are not emerging growth companies. As a result of this election, our financial statements may not be comparable to those of other public companies that comply with new or revised accounting pronouncements as of public company effective dates. We may choose to early adopt any new or revised accounting standards whenever such early adoption is permitted for private companies.

We cannot predict whether investors will find our common stock less attractive if we rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

Insiders will continue to have substantial influence over us after this offering, which could limit your ability to affect the outcome of key transactions, including a change of control.

After this offering, our directors and executive officers and their affiliates will beneficially own shares representing approximately % percent of our outstanding common stock. As a result, these stockholders, if they act together, will be able to influence our management and affairs and all matters requiring stockholder approval. For example, these stockholders may be able to control elections of directors, amendments of our organizational documents or approval of any merger, sale of assets or other major corporate transaction. This concentration of ownership may have the effect of delaying or preventing a change in control of our company and might affect the market price of our common stock.

We do not expect to pay any dividends for the foreseeable future. Investors in this offering may never obtain a return on their investment.

You should not rely on an investment in our common stock to provide dividend income. We do not anticipate that we will pay any dividends to holders of our common stock in the foreseeable future. Instead, we plan to retain any earnings to maintain and expand our existing operations. In addition, any future credit facility may contain terms prohibiting or limiting the amount of dividends that may be declared or paid on our common stock. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any return on their investment. As a result, investors seeking cash dividends should not purchase our common stock.

If we fail to establish and maintain proper and effective internal control over financial reporting, our operating results and our ability to operate our business could be harmed.

Ensuring that we have adequate internal financial and accounting controls and procedures in place so that we can produce accurate financial statements on a timely basis is a costly and time-consuming effort that needs to be re-evaluated frequently. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements

in accordance with generally accepted accounting principles. In connection with this offering, we intend to begin the process of documenting, reviewing and improving our internal controls and procedures for compliance with SOX Section 404, which will require annual management assessment of the effectiveness of our internal control over financial reporting starting with our second filing of an Annual Report on Form 10-K.

Implementing any appropriate changes to our internal controls may distract our officers and employees, entail substantial costs to modify our existing processes and take significant time to complete. These changes may not, however, be effective in maintaining the adequacy of our internal controls, and any failure to maintain that adequacy or consequent inability to produce accurate financial statements on a timely basis could increase our operating costs and harm our business. In addition, investors' perceptions that our internal controls are inadequate or that we are unable to produce accurate financial statements on a timely basis cause investors to lose confidence in the accuracy and completeness of our financial reports and could cause the market price of our common stock to decline significantly.

Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

Upon the closing of this offering, we will become subject to the periodic reporting requirements of the Exchange Act. We designed our disclosure controls and procedures to reasonably assure that information we must disclose in reports we file or submit under the Exchange Act is accumulated and communicated to management, and recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal controls and procedures, no matter how well-conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met.

These inherent limitations include the facts that judgments in decision-making can be faulty and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements due to error or fraud may occur and not be detected.

Our amended and restated bylaws that will become effective upon the effectiveness of our registration statement designate specific courts as the exclusive forum for certain litigation that may be initiated by our stockholders, which could limit stockholders' ability to obtain a favorable judicial forum for disputes with us.

Pursuant to our amended and restated bylaws that will become effective upon the effectiveness of our registration statement, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware is the sole and exclusive forum for any state law claims for (i) any derivative action or proceeding brought on our behalf; (ii) any action asserting a claim of or based on a breach of a fiduciary duty owed by any director, officer or other employee of ours to us or our stockholders; (iii) any action asserting a claim pursuant to any provision of the DGCL, our amended and restated certificate of incorporation or our amended and restated bylaws or as to which the DGCL confers jurisdiction on the Court of Chancery of the State of Delaware; or (iv) any action asserting a claim governed by the internal affairs doctrine (the "Delaware Forum Provision"). The Delaware Forum Provision will not apply to any causes of action arising under the Securities Act or the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Our amended and restated bylaws further provide that unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States shall be the sole and exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act, the Exchange Act, the respective rules and regulations promulgated thereunder or the Federal Forum Provision. In addition, our amended and restated bylaws provide that any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock is deemed to have notice of and consented to the Delaware Forum Provision and

the Federal Forum Provision; provided, however, that stockholders cannot and will not be deemed to have waived our compliance with the federal securities laws and the rules and regulations thereunder.

We recognize that the Delaware Forum Provision and the Federal Forum Provision in our amended and restated bylaws may impose additional litigation costs on stockholders in pursuing any such claims, particularly if the stockholders do not reside in or near the State of Delaware. Additionally, the forum selection clauses in our amended and restated bylaws may limit our stockholders' ability to bring a claim in a judicial forum that they find favorable for disputes with us or our directors, officers or employees, which may discourage the filing of lawsuits against us and our directors, officers and employees, even though an action, if successful, might benefit our stockholders. In addition, while the Delaware Supreme Court ruled in March 2020 that federal forum selection provisions purporting to require claims under the Securities Act be brought in federal court are "facially valid" under Delaware law, there is uncertainty as to whether other courts will enforce our Federal Forum Provision. If the Federal Forum Provision is found to be unenforceable, we may incur additional costs associated with resolving such matters. The Federal Forum Provision may also impose additional litigation costs on stockholders who assert that the provision is not enforceable or invalid. The Court of Chancery of the State of Delaware and the federal district courts of the United States may also reach different judgments or results than would other courts, including courts where a stockholder considering an action may be located or would otherwise choose to bring the action, and such judgments may be more or less favorable to us than our stockholders.

Provisions in our amended and restated certificate of incorporation and amended and restated bylaws that will become effective upon the effectiveness of our registration statement and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our stockholders, and may prevent attempts by our stockholders to replace or remove our current management.

Our amended and restated certificate of incorporation and amended and restated bylaws that will become effective upon the effectiveness of our registration statement and Delaware law contain provisions that may have the effect of discouraging, delaying or preventing a change in control of us or changes in our management that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. Our amended and restated certificate of incorporation, which will become effective immediately prior to the closing of this offering, and amended and restated bylaws, which will become effective upon the effectiveness of the registration statement of which this prospectus is a part, include provisions that:

- authorize "blank check" preferred stock, which could be issued by our board of directors without stockholder approval and may contain voting, liquidation, dividend and other rights superior to our common stock;
- create a classified board of directors whose members serve staggered three-year terms;
- specify that special meetings of our stockholders can be called only by our board of directors;
- prohibit stockholder action by written consent;
- establish an advance notice procedure for stockholder approvals to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to our board of directors;
- provide that vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum;
- provide that our directors may be removed only for cause;
- specify that no stockholder is permitted to cumulate votes at any election of directors;

- expressly authorized our board of directors to make, alter, amend or repeal our amended and restated bylaws; and
- require supermajority votes of the holders of our common stock to amend specified provisions of our amended and restated certificate of incorporation and amended and restated bylaws.

These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our management. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock.

In addition, because we are incorporated in the State of Delaware, we are governed by the provisions of Section 203 of the DGCL, which prohibits a person who owns in excess of 15 percent of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15 percent of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

Any provision of our amended and restated certificate of incorporation, amended and restated bylaws or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock and could also affect the price that some investors are willing to pay for our common stock.

Adverse developments affecting the financial services industry could adversely affect our current and projected business operations and our financial condition and results of operations.

Adverse developments that affect financial institutions, such as events involving liquidity that are rumored or actual, have in the past and may in the future lead to bank failures and market-wide liquidity problems. For example, on March 10, 2023, Silicon Valley Bank ("SVB") was closed by the California Department of Financial Protection and Innovation, which appointed the Federal Deposit Insurance Corporation ("FDIC") as receiver. Similarly, on March 12, 2023, Signature Bank was also swept into receivership. The U.S. Department of Treasury, the Federal Reserve Board (the "Federal Reserve"), and the FDIC released a statement that indicated that all depositors of SVB would have access to all of their funds, including funds held in uninsured deposit accounts, after only one business day of closure. The U.S. Department of Treasury, FDIC and Federal Reserve have announced a program to provide up to $25 billion of loans to financial institutions secured by certain of such government securities held by financial institutions to mitigate the risk of potential losses on the sale of such instruments, widespread demands for customer withdrawals or other liquidity needs of financial institutions for immediately liquidity may exceed the capacity of such program. There is no guarantee, however, that the U.S. Department of Treasury, FDIC and Federal Reserve will provide access to uninsured funds in the future in the event of the closure of other banks or financial institutions, or that they would do so in a timely fashion.

At this time, we hold substantially all of our cash on deposit at SVB (which has been assumed by First Citizens) and we have not experienced any adverse impact to our current and projected business operations, financial condition or results of operations as a result of the closure of SVB or any other banks. We plan to diversify our cash deposit holdings between multiple financial institutions. However, uncertainty remains over liquidity concerns in the broader financial services industry, and our business, our business partners, or industry as a whole may be adversely impacted in ways that we cannot predict at this time. If, for example, other banks and financial institutions enter receivership or become insolvent in the future in response to financial conditions affecting the banking system and financial markets, our ability to access our existing cash, cash equivalents and available-for-sale marketable securities may be threatened.

Although we expect to assess our banking relationships as we believe necessary or appropriate, our access to cash in amounts adequate to finance or capitalize our current and projected future business operations could be significantly impaired by factors that affect the financial institutions with which we have banking relationships, and in turn, us.

These factors could include, among others, events such as liquidity constraints or failures, the ability to perform obligations under various types of financial, credit or liquidity agreements or arrangements, disruptions or instability in the financial services industry or financial markets, or concerns or negative expectations about the prospects for companies in the financial services industry. These factors could also include factors involving financial markets or the financial services industry generally. The results of events or concerns that involve one or more of these factors could include a variety of material and adverse impacts on our current and projected business operations and our financial condition and results of operations. These could include, but may not be limited to, delayed access to deposits or other financial assets or the uninsured loss of deposits or other financial assets; or termination of cash management arrangements and/or delays in accessing or actual loss of funds subject to cash management arrangements.

In addition, widespread investor concerns regarding the U.S. or international financial systems could result in less favorable commercial financing terms, including higher interest rates or costs and tighter financial and operating covenants, or systemic limitations on access to credit and liquidity sources, thereby making it more difficult for us to acquire financing on acceptable terms or at all. Any decline in available funding or access to our cash and liquidity resources could, among other risks, adversely impact our ability to meet our operating expenses, financial obligations or fulfill our other obligations, result in breaches of our financial and/or contractual obligations or result in violations of federal or state wage and hour laws. Any of these impacts, or any other impacts resulting from the factors described above or other related or similar factors not described above, could have material adverse impacts on our liquidity and our current and/or projected business operations and financial condition and results of operations.

In addition, one or more of our critical vendors, third party manufacturers, or other business partners could be adversely affected by any of the liquidity or other risks that are described above, which in turn, could have a material adverse effect on our current and/or projected business operations and results of operations and financial condition. Any business partner bankruptcy or insolvency, or any breach or default by a business partner, or the loss of any significant supplier relationships, could result in material adverse impacts on our current and/or projected business operations and financial condition.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the sections entitled “Prospectus Summary,” “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and “Business,” contains express or implied forward-looking statements that are based on our management’s belief and assumptions and on information currently available to our management. Although we believe that the expectations reflected in these forward-looking statements are reasonable, these statements relate to future events or our future operational or financial performance, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. Forward-looking statements in this prospectus include, but are not limited to, statements about:

- the initiation, timing, progress and results of our research and development programs, preclinical studies and future clinical trials;
- our ability to demonstrate, and the timing of, preclinical proof-of-concept *in vivo* and *ex vivo* for multiple programs;
- our ability to advance any product candidates that we may identify and successfully complete any clinical studies, including the manufacture of any such product candidates;
- our ability to quickly leverage programs within our initial target indications and to progress additional programs to further develop our pipeline;
- the timing of our IND applications submissions;
- the implementation of our strategic plans for our business, programs and technology;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our genome editing technology and platform;
- developments related to our competitors and our industry;
- our ability to leverage the clinical, regulatory, and manufacturing advancements made by genome editing programs to accelerate our clinical trials and approval of product candidates;
- our ability to identify and enter into future license agreements and collaborations;
- developments related to our genome editing technology and platform;
- regulatory developments in the United States and foreign countries;
- our ability to attract and retain key scientific and management personnel; and
- our use of proceeds from this offering, estimates of our expenses, capital requirements, and needs for additional financing.

In some cases, you can identify forward-looking statements by terminology such as “may,” “should,” “expects,” “intends,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” “potential,” “continue” or the negative of these terms or other comparable terminology. These statements are only predictions. You should not place undue reliance on forward-looking statements because they involve known and unknown risks, uncertainties, and other factors, which are, in some cases, beyond our control and which could materially affect results. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under the section entitled “Risk Factors” and elsewhere in this prospectus. If one or more of

these risks or uncertainties occur, or if our underlying assumptions prove to be incorrect, actual events or results may vary significantly from those implied or projected by the forward-looking statements. No forward-looking statement is a guarantee of future performance. You should read this prospectus and the documents that we reference in this prospectus and have filed with the SEC as exhibits to the registration statement, of which this prospectus forms a part, completely and with the understanding that our actual future results may be materially different from any future results expressed or implied by these forward-looking statements.

The forward-looking statements in this prospectus represent our views as of the date of this prospectus. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should therefore not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this prospectus.

This prospectus also contains estimates, projections and other information concerning our industry, our business and the markets for our product candidates. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. Unless otherwise expressly stated, we obtained this industry, business, market, and other data from our own internal estimates and research as well as from reports, research surveys, studies, and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources. While we are not aware of any misstatements regarding any third-party information presented in this prospectus, their estimates, in particular, as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties and are subject to change based on various factors, including those discussed under the section entitled “Risk Factors” and elsewhere in this prospectus.

REORGANIZATION

Prior to the effectiveness of this registration statement, we intend to engage in a series of transactions pursuant to which Metagenomi Technologies, LLC, the sole stockholder and holding company parent of Metagenomi, Inc., will merge with and into Metagenomi, Inc., and Metagenomi, Inc. will continue to exist as the surviving corporation. Throughout this prospectus, we refer to these transactions and the related transactions enumerated below collectively as the "Reorganization." To consummate the Reorganization, we will file a certificate of merger and amended and restated certificate of incorporation with the Secretary of State of the State of Delaware. In connection with the Reorganization:

- holders of Metagenomi Technologies, LLC's outstanding Series A-1 redeemable convertible preferred units ("Series A-1 preferred units") will receive share of Series A-1 redeemable convertible preferred stock ("Series A-1 preferred stock") of Metagenomi, Inc. for each Series A-1 preferred unit held immediately prior to the Reorganization, with an aggregate of shares of our Series A-1 redeemable convertible preferred stock issued in the Reorganization;
- holders of Metagenomi Technologies, LLC's outstanding Series A-2 redeemable convertible preferred units ("Series A-2 preferred units") will receive share of Series A-2 redeemable convertible preferred stock ("Series A-2 preferred stock") of Metagenomi, Inc. for each Series A-2 preferred unit held immediately prior to the Reorganization, with an aggregate of shares of our Series A-2 redeemable convertible preferred stock issued in the Reorganization;
- holders of Metagenomi Technologies, LLC's outstanding Series A-3 redeemable convertible preferred units ("Series A-3 preferred units") will receive share of Series A-3 redeemable convertible preferred stock ("Series A-3 preferred stock") of Metagenomi, Inc. for each Series A-3 preferred unit held immediately prior to the Reorganization, with an aggregate of shares of our Series A-3 redeemable convertible preferred stock issued in the Reorganization;
- holders of Metagenomi Technologies, LLC's outstanding Series A-4 redeemable convertible preferred units ("Series A-4 preferred units") will receive share of Series A-4 redeemable convertible preferred stock ("Series A-4 preferred stock") of Metagenomi, Inc. for each Series A-4 preferred unit held immediately prior to the Reorganization, with an aggregate of shares of our Series A-4 redeemable convertible preferred stock issued in the Reorganization;
- holders of Metagenomi Technologies, LLC's outstanding Series A-5 redeemable convertible preferred units ("Series A-5 preferred units") will receive share of Series A-5 redeemable convertible preferred stock ("Series A-5 preferred stock") of Metagenomi, Inc. for each Series A-5 preferred unit held immediately prior to the Reorganization, with an aggregate of shares of our Series A-5 redeemable convertible preferred stock issued in the Reorganization;
- holders of Metagenomi Technologies, LLC's outstanding Series B redeemable convertible preferred units ("Series B preferred units") will receive share of Series B redeemable convertible preferred stock ("Series B preferred stock") of Metagenomi, Inc. for each Series B preferred unit held immediately prior to the Reorganization, with an aggregate of shares of our Series B redeemable convertible preferred stock issued in the Reorganization;
- holders of Metagenomi Technologies, LLC's outstanding Series B-1 redeemable convertible preferred units ("Series B-1 preferred units") will receive share of Series B-1 redeemable convertible preferred stock ("Series B-1 preferred stock") of Metagenomi, Inc. for each Series B-1 preferred unit held immediately prior to the Reorganization, with an aggregate of shares of our Series B-1 redeemable convertible preferred stock issued in the Reorganization;

- holders of Metagenomi Technologies, LLC's outstanding common units will receive shares of common stock of Metagenomi, Inc. for each common unit held immediately prior to the Reorganization, with an aggregate of shares of our common stock (which includes shares of unvested restricted common stock) issued in the Reorganization; and
- holders of Metagenomi Technologies, LLC's outstanding profits interests will receive shares of common stock of Metagenomi, Inc. for each profits interest held immediately prior to the Reorganization, with an aggregate of shares of our common stock issued (which includes shares of unvested restricted common stock) in the Reorganization. Vesting terms of outstanding profits interests will not change.

Metagenomi, Inc.'s Series A-1 preferred stock, Series A-2 preferred stock, Series A-3 preferred stock, Series A-4 preferred stock, Series A-5 preferred stock, and Series B preferred stock and Series B-1 preferred stock will be designated as preferred stock under Metagenomi, Inc.'s amended and restated certificate of incorporation. All outstanding shares of our redeemable convertible preferred stock will be convertible into shares of common stock on a one-for- basis.

In connection with the Reorganization, by operation of law, Metagenomi, Inc. will acquire all assets of Metagenomi Technologies, LLC, and assume all of its liabilities and obligations. The purpose of the Reorganization is to reorganize our corporate structure so that Metagenomi, Inc. will continue as a corporation and the existing investors of Metagenomi Technologies, LLC will own Metagenomi, Inc. capital stock rather than members' equity interests in Metagenomi Technologies, LLC. The Reorganization generally is intended to not result in a taxable event to Metagenomi, Inc. for U.S. income tax purposes. Except as context otherwise requires, all information included in this prospectus is presented giving effect to the Reorganization.

USE OF PROCEEDS

We estimate that the net proceeds to us from the sale of shares of our common stock in this offering will be approximately $ million, or approximately $ million if the underwriters exercise in full their option to purchase additional shares, assuming an initial public offering price of $ per share, the estimated midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

A $1.00 increase (decrease) in the assumed initial public offering price of $ per share, the estimated midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the net proceeds to us from this offering by $ million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. An increase (decrease) of 1,000,000 shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) net proceeds to us from this offering by $ million, assuming no change in the assumed initial public offering price per share, the estimated midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We do not expect that a change in the offering price or the number of shares by these amounts would have a material effect on our intended uses of the net proceeds from this offering, although it may impact the amount of time prior to which we may need to seek additional capital.

As of September 30, 2023, we had cash and cash equivalents and available-for-sale marketable securities of $292.9 million. We currently intend to use the net proceeds from this offering, together with our existing cash and cash equivalents and available-for-sale marketable securities, as follows:

- approximately million for continued research and development of our therapeutic portfolio, including preclinical studies and advancement through potential preclinical proof-of-concept;
- approximately million for IND-enabling studies and potential initiation of clinical studies for certain of our current programs;
- approximately million to advance our gene editing platform discovery and early-stage research for other potential programs;
- approximately million to advance manufacturing capabilities to support early stage clinical development; and
- the remainder for general corporate purposes.

Based on our current plans, we believe our existing cash and cash equivalents and available-for-sale marketable securities, together with the net proceeds from this offering, will be sufficient to fund our operations and capital expenditure requirements into .

All of our programs are currently in preclinical stage of development. The expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the closing of this offering or the amounts that we will actually spend on the uses set forth above. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our research and development, the status of and results from pre-clinical studies or clinical trials we may commence in the future, as well as any collaborations that we may enter into with third parties for our product candidates or strategic opportunities that become available to us, and any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering. We expect the net proceeds from this offering, together with our existing cash and cash equivalents, and available-for-sale marketable securities, will not be sufficient for us to advance any of our programs through regulatory approval, and we will need to raise additional capital to complete the development and potential commercialization of any of our programs.

Pending our use of proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation instruments, including short-term, investment-grade, interest-bearing financial instruments and U.S. government securities.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our members' capital. We currently intend to retain any future earnings to fund the development and expansion of our business, and therefore we do not anticipate paying cash dividends on our common stock in the foreseeable future. Any future determination to pay dividends will be at the discretion of our board of directors and will depend on our results of operations, financial condition, capital requirements and other factors deemed relevant by our board of directors.

CAPITALIZATION

The following table sets forth our cash, cash equivalents, available-for-sale marketable securities and our capitalization as of September 30, 2023:

- on an actual basis;
- on a pro forma basis to give effect to (i) the Reorganization, (ii) the conversion of shares of our redeemable convertible preferred stock, issued in connection with the Reorganization in exchange for redeemable convertible preferred units outstanding as of September 30, 2023, in connection with the Reorganization, into an equivalent number of shares of our common stock, immediately prior to the completion of this offering and (iii) the filing and effectiveness of our amended and restated certificate of incorporation immediately prior to the completion of this offering, in each case as if such events had occurred on September 30, 2023; and
- on a pro forma as adjusted basis to give further effect to our issuance and sale of shares of our common stock in this offering at an assumed initial public offering price of $ per share, which is the estimated midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The pro forma as adjusted information below is illustrative only, and our capitalization following the completion of this offering will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing. You should read the information in this table together with our consolidated financial statements and the related notes included elsewhere in this prospectus and "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of this prospectus.

	As of September 30, 2023		
	Actual	Pro forma	Pro forma as adjusted
	(in thousands, except share and per share data)		
Cash and cash equivalents	$ 101,897	$	$
Available-for-sale marketable securities	191,030		
Total cash, cash equivalents and available-for-sale marketable securities	$ 292,927		
Redeemable convertible preferred units; no par value; 41,813,375 units authorized, 41,813,375 units issued and outstanding, actual; no units authorized issued and outstanding, pro forma and pro forma as adjusted	350,758	—	—
Redeemable Convertible preferred stock; $ par value; no shares authorized, issued and outstanding, actual; shares authorized and no shares issued and outstanding, pro forma; and no shares authorized, issued and outstanding, pro forma as adjusted	—	—	—
Members'/Stockholders' equity (deficit):			
Profits interests, no par value; 14,604,165 units authorized, 9,556,687 units issued and outstanding, actual; no units authorized, issued and outstanding, pro forma and pro forma as adjusted	6,962	—	—
Common units, no par value; 66,000,000 units authorized, 5,947,500 units issued and outstanding, actual; no units authorized, issued and outstanding, pro forma and pro forma as adjusted	26	—	—
Preferred stock, $ par value; no shares authorized, issued or outstanding, actual and pro forma; shares authorized and no shares issued or outstanding, pro forma as adjusted	—	—	—
Common stock, $ par value; no shares authorized, issued and outstanding, actual; shares authorized, shares issued and outstanding, pro forma; shares authorized, shares issued and outstanding, pro forma as adjusted	—		
Additional paid-in capital	—		
Accumulated other comprehensive loss	(359)		
Accumulated deficit	(125,650)		
Total members'/stockholders' equity (deficit)	(119,021)		
Total capitalization	$ 231,737	$	$

Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share, which is the estimated midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash and cash equivalents, total stockholders' equity (deficit) and total capitalization by $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each increase (decrease) of 1,000,000 shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash and cash equivalents, total stockholders' equity (deficit) and total capitalization by $ million, assuming no change in the assumed initial public offering price per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

You should read the information in this table together with our consolidated financial statements and the related notes included elsewhere in this prospectus and "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of this prospectus.

The number of shares of our common stock outstanding after this offering assumes the Reorganization takes place immediately prior to the effectiveness of this registration statement and is based on shares of our common stock (including shares of unvested restricted common stock) issued in exchange for common units and profits interests outstanding as of September 30, 2023, and after giving effect to the conversion of shares of our redeemable convertible preferred stock, issued in connection with the Reorganization in exchange for redeemable convertible preferred units outstanding as of September 30, 2023, into an equivalent number of shares of our common stock immediately prior to the completion of this offering.

The number of shares of common stock to be outstanding after this offering excludes:

- shares of common stock reserved for future issuance under our 2024 Stock Option and Incentive Plan (the "2024 Plan"), which will become effective on the date immediately prior to execution of the underwriting agreement related to this offering; and
- shares of common stock reserved for future issuance under our 2024 Employee Stock Purchase Plan (the "ESPP"), which will become effective on the date immediately prior to the execution of the underwriting agreement related to this offering.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted immediately to the extent of the difference between the initial public offering price per share of our common stock and the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering.

Our historical net tangible book value (deficit) as of September 30, 2023 was $(123.4) million, or $(20.75) per our common unit. Our historical net tangible book value (deficit) is the amount of our total tangible assets less our total liabilities and the carrying values of our redeemable convertible preferred units, which is not included within members' deficit. Our historical net tangible book value (deficit) per unit represents historical net tangible book value (deficit) divided by 5,947,500 of our common units outstanding as of September 30, 2023.

Our pro forma net tangible book value as of September 30, 2023 was $ million, or $ per share of our common stock. Pro forma net tangible book value represents the amount of our total tangible assets less our total liabilities, after giving effect to (i) the Reorganization, (ii) the conversion of shares of our redeemable convertible preferred stock, issued in connection with the Reorganization in exchange for redeemable convertible preferred units into an equivalent number of shares of our common stock immediately prior to the completion of this offering, and (iii) the filing and effectiveness of our amended and restated certificate of incorporation immediately prior to the completion of this offering. Pro forma net tangible book value per share represents pro forma net tangible book value divided by the total number of shares outstanding as of September 30, 2023, after giving effect to the pro forma adjustments described above.

After giving further effect to our issuance and sale of shares of our common stock in this offering at an assumed initial public offering price of $ per share, the estimated midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of September 30, 2023 would have been $ million, or $ per share. This amount represents an immediate increase in pro forma as adjusted net tangible book value of $ per share to our existing stockholders and immediate dilution in pro forma as adjusted net tangible book value of $ per share to new investors purchasing common stock in this offering.

Dilution per share to new investors is determined by subtracting pro forma as adjusted net tangible book value per share after this offering from the initial public offering price per share paid by new investors. The following table illustrates this dilution on a per share basis (without giving effect to any exercise by the underwriters of their option to purchase additional shares):

Assumed initial public offering price per share		**$**
Historical net tangible book value (deficit) per common unit as of September 30, 2023	$ (20.75)	
Increase per share attributable to the pro forma adjustments described above		
Pro forma net tangible book value per share as of September 30, 2023		
Increase in pro forma as adjusted net tangible book value per share attributable to new investors participating in this offering		
Pro forma as adjusted net tangible book value per share immediately after this offering		
Dilution per share to new investors participating in this offering		$

The dilution information discussed above is illustrative only and will change based on the actual initial public offering price and other terms of this offering determined at pricing. Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share, which is the estimated midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) our pro forma as adjusted net tangible book value per share after this offering by $ and dilution per share to new investors purchasing common stock in this offering by $, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each increase of 1,000,000 shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase our pro forma as adjusted net tangible book value per share after this offering by $ and decrease dilution per share to new investors purchasing common stock in this offering by $, assuming no change in the assumed initial public offering price per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each decrease of 1,000,000 shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would decrease our pro forma as adjusted net tangible book value per share after this offering by $ and increase dilution per share to new investors purchasing common stock in this offering by $, assuming no change in the assumed initial public offering price and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters exercise their option to purchase additional shares in full, our pro forma as adjusted net tangible book value per share after this offering would be $, representing an immediate increase in pro forma as adjusted net tangible book value per share of $ to existing stockholders and immediate dilution in pro forma as adjusted net tangible book value per share of $ to new investors purchasing common stock in this offering, based on the assumed initial public offering price of $ per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The following table summarizes on the pro forma as adjusted basis described above, the total number of shares of common stock purchased from us on an as converted to common stock basis, the total consideration paid or to be paid, and the average price per share paid or to be paid by existing members/stockholders and by new investors in this offering at an assumed initial public offering price of $ per share, which is the estimated midpoint of the estimated price range set forth on the cover of this prospectus, before deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. As the table shows, new investors purchasing common stock in this offering will pay an average price per share substantially higher than our existing members/ stockholders paid.

	Units/Shares Purchased		Total Consideration		Average Price
	Number	Percent	Amount	Percent	Per Unit/Share
Existing members/stockholders	47,760,875		$351,637,285		$7.36
Investors participating in this offering					
Total		100%	$	100%	

The table above assumes no exercise of the underwriters' option to purchase additional shares in this offering. If the underwriters' option to purchase additional shares is exercised in full, the number of shares of our common stock held by existing stockholders would be reduced to percent of the total number of shares of our common stock outstanding after this offering, and the number of shares of common stock held by new investors purchasing common stock in this offering would be increased to percent of the total number of shares of our common stock outstanding after this offering.

The discussion and tables above assume the Reorganization takes place prior to the effectiveness of this registration statement and are based on shares of our common stock (including shares of unvested restricted common stock) issued in exchange for common units and profits interests outstanding as of September 30, 2023, and after giving effect to the conversion of shares of our redeemable convertible preferred stock, issued in connection with the Reorganization, in exchange for redeemable convertible preferred units outstanding as of September 30, 2023, into an equivalent number of shares of our common stock immediately prior to the completion of this offering.

The number of shares of common stock to be outstanding after this offering excludes:

- shares of common stock reserved for future issuance under the 2024 Plan; and
- shares of common stock reserved for future issuance under the ESPP.

To the extent that new stock options are issued, or we issue additional shares of common stock in the future, there will be further dilution to new investors. In addition, we may choose to raise additional capital because of market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans. If we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with our audited consolidated financial statements and unaudited condensed consolidated financial statements and the related notes appearing elsewhere in this prospectus. This discussion and other parts of this prospectus contain forward-looking statements that involve risks and uncertainties, such as statements regarding our plans, objectives, expectations, intentions and projections. Our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the "Risk Factors" section of this prospectus. Our historical results are not necessarily indicative of the results that may be expected for any period in the future.

Overview

We are a precision genetic medicines company committed to developing curative therapeutics for patients using our proprietary, comprehensive metagenomics-derived genome editing toolbox. Genetic diseases are caused by a diverse set of mutations that have been largely inaccessible by genome engineering approaches to date. Genetic mutations are seen in a variety of forms, including deletions, insertions, single-base-pair changes and sequence repeats, and are found throughout the genome and across a variety of different cell types, tissues, and organ systems. Additionally, many diseases lack a genetic origin but have the potential to be effectively and permanently addressed through genome editing. We are harnessing the power of metagenomics, the study of genetic material recovered from the natural environment, to unlock four billion years of microbial evolution to discover and develop a suite of novel editing tools capable of correcting any type of genetic mutation found anywhere in the genome. Our comprehensive genome editing toolbox includes programmable nucleases, base editors, and RNA and DNA-mediated integration systems (including prime editing systems and clustered regularly interspaced short palindromic repeat ("CRISPR")-associated transposases ("CASTs")). We believe our diverse and modular toolbox positions us to access the entire genome and select the optimal tool to unlock the full potential of genome editing for patients.

Since our inception, we have devoted substantially all of our resources to organizing and staffing our company, business planning, raising capital, research and development activities, building our intellectual property portfolio and providing general and administrative support for these operations. We have historically financed our operations primarily through issuing redeemable convertible preferred units and convertible promissory notes and entering into collaboration agreements, which generate collaboration revenue.

We have incurred significant operating losses since inception and we expect to continue to incur substantial losses for the foreseeable future. Our net losses were $21.4 million and $43.6 million for the years ended December 31, 2021 and 2022, respectively. Our net losses were $29.0 million and $49.0 million for the nine months ended September 30, 2022 and 2023, respectively. As of September 30, 2023, we had an accumulated deficit of $125.7 million. We anticipate that our expenses and operating losses will increase substantially for the foreseeable future as we:

- advance our current research activities and further develop our platform;
- develop, maintain, expand, and protect our intellectual property portfolio;
- continue preclinical development and initiate clinical trials for any product candidates we may identify;
- seek regulatory approval for any product candidates for which we successfully complete clinical trials;

- establish our manufacturing capabilities, including internal manufacturing facilities and contracting with other vendors;
- ultimately, commercialize any future product candidates for which we receive regulatory approval, requiring significant marketing, sales, and distribution infrastructure expenses;
- hire additional research and development, clinical, commercial, general and administrative personnel;
- acquire or in-license product candidates, intellectual property and technologies;
- establish and maintain collaborations;
- add operational, financial and management information systems and personnel; or
- incur additional legal, audit, accounting, compliance, insurance, investor relations and other expenses to operate as a public company that we did not incur as a private company.

We will not generate revenue from product sales unless and until we successfully initiate and complete clinical development and obtain regulatory approval for one or more product candidates. If we obtain regulatory approval for any product candidate and do not enter into a commercialization partnership, we expect to incur significant expenses related to developing our commercialization capability to support product sales, manufacturing, marketing, and distribution. As a result, we will need substantial additional funding to support our continuing operations and pursue our growth strategy. Until such time as we can generate significant revenue from product sales, if ever, we expect to finance our operations through a combination of equity offerings, debt financings, collaborations, strategic alliances, and marketing, distribution or licensing arrangements with third parties. We may be unable to raise additional funds or enter into such other agreements or arrangements when needed on favorable terms, or at all. If we fail to raise capital or enter into such agreements as and when needed, we may have to significantly delay, reduce or eliminate the development and commercialization of our platform or delay our pursuit of potential in-licenses or acquisitions.

As of September 30, 2023, we had cash, cash equivalents and available-for-sale marketable securities of $292.9 million. We believe that the anticipated net proceeds from this offering, together with our existing cash, cash equivalents and available-for-sale marketable securities will be sufficient to fund our operating expenses and capital expenditure requirements through . We have based this estimate on assumptions that may prove to be wrong, and we could exhaust our available capital resources sooner than we expect. See “Liquidity and Capital Resources” and “Risk Factors—Risks Related To Our Financial Position and Need for Additional Capital.”

Macroeconomic Trends

Unfavorable conditions in the economy in the United States and abroad may negatively affect the growth of our business and our results of operations. For example, macroeconomic events, including, rising inflation, tensions in U.S.-China relations, the COVID-19 pandemic, the U.S. Federal Reserve raising interest rates, recent and potential future disruptions in access to bank deposits and lending commitments due to bank failures and the effects of the ongoing geopolitical conflict in Ukraine and the Israel-Hamas war, have led to economic uncertainty and volatility globally. The effect of macroeconomic conditions may not be fully reflected in our results of operations until future periods. To date, the macroeconomic trends discussed above have not had a material adverse impact on our business, financial condition or results of operations. If, however, economic uncertainty increases or the global economy worsens, our business, financial condition and results of operations may be harmed. For further discussion of the potential impacts of macroeconomic events on our business, financial condition, and operating results, refer to the section titled “Risk Factors” included elsewhere in this prospectus.

Collaboration and License Agreements

Moderna Strategic Collaboration and License Agreement

On October 29, 2021, the effective date, we entered into a Strategic Collaboration and License Agreement (the "Moderna Agreement") with Moderna. We will collaborate with Moderna on the research and development of *in vivo* genome editing therapies directed at certain targets and the commercialization of such genome editing therapies. The collaboration provides Moderna with exclusive access to our technology platform during the research period in (1) the field of *in vivo* gene editing technology for a therapeutic, ameliorative or prophylactic application by way of knock-out through InDel formation or base editing or insertion of an exogenous DNA template (such field, "DT Field") and (2) the field of *in vivo* gene editing technology for a therapeutic, ameliorative or prophylactic application outside the use of (a) DNA donor templates and (b) no exogenous template at all but including (c) correction by base editing (such field, "RT Field"). We formed a joint steering committee, a joint research subcommittee and a joint patent subcommittee to oversee the collaboration activities.

Under the terms of the Moderna Agreement, we and Moderna will collaborate on one or more programs in the RT Field (the "Moderna RT program") and two programs in the DT Field (the "Moderna DT program" and the "DT Co-Co program").

With respect to the Moderna RT and Moderna DT programs, we will collaborate on the research and development of product candidates under the approved research plans. The initial research term of the Moderna RT program is four years, which may be extended by Moderna for an additional three years upon written notice and a payment of extension fees. The initial research term of the Moderna DT program is four years. We granted to Moderna an option to obtain an exclusive license to develop, manufacture and commercialize up to ten Moderna RT program candidates and up to two Moderna DT program candidates at any time during the research term and prior to filing of an IND application with the FDA or any similar application filed with a regulatory authority in a country other than the United States ("U.S."), subject to Moderna's payment of an option exercise fee of $10.0 million per target.

With respect to the DT Co-Co program, we will work together with Moderna on the co-development and commercialization of products and share costs and profits equally. We maintain commercialization rights in the U.S. (subject to Moderna's right to appoint up to 50% of the U.S. sales force for the DT Co-Co program), while Moderna maintains these rights in countries other than the U.S. The initial research term for the DT Co-Co program is four years, and each party has a right to opt-out of the DT Co-Co program at any time, at which point the other party has the right to solely continue the development and commercialization activities. If there is no development candidate nomination by the end of the initial research term, the DT Co-Co program will expire, unless we have mutually agreed to continue the program.

During the year ended December 31, 2021, we received a non-refundable upfront payment of $40.0 million and a $5.0 million payment for the first year of research costs. Concurrent with the Moderna Collaboration Agreement, Moderna also provided $30.0 million in cash in the form of a convertible promissory note (see Note 9 in our audited consolidated financial statements included elsewhere in this prospectus) pursuant to a convertible promissory note agreement dated October 29, 2021 (the "Moderna Convertible Promissory Note Agreement"). The convertible promissory note was converted into shares of Series B redeemable convertible preferred units in January 2022. Moderna will reimburse us up to $5.0 million in annual research and development costs related to the Moderna DT and Moderna RT programs, or up to the agreed amount of expenses per the budget. As of September 30, 2023, we have received a total of $49.6 million under the Moderna Collaboration Agreement, not including cost-sharing payments under the DT Co-Co program.

For the Moderna RT and Moderna DT programs, we are eligible to receive (i) technology milestone fees related to the achievement of certain preclinical research objectives of up to $75.0 million, (ii) development and regulatory milestones of up to $100.0 million per target, (iii) sales milestones of up to $200.0 million per target, and (iv) royalties ranging from a mid-single digit to a low-teens percentage of annual net sales of a licensed product. Any profits and losses from the co-development and commercialization of the DT Co-Co program are shared equally between us and Moderna. With respect to the DT Co-Co program for which the opt-out party has exercised its opt-out right, the continuing party will pay to the opt-out party, certain development, regulatory and sales milestone payments that will not exceed an aggregate $239.0 million per DT Co-Co target, and opt-out royalties ranging from a high-single digit to a low-teens percentage of annual net sales of a licensed product.

The term of the Moderna Agreement will continue on a licensed product-by-licensed product and country-by-country basis, until the expiration of the applicable royalty term. The royalty term commences on the first commercial sale of a licensed product and terminates on the latest of: (a) the expiration or abandonment of the last valid claim of a patent within the licensed Moderna DT or RT technology; (b) 10 years after the first commercial sale of a licensed product; and (c) expiration of the regulatory exclusivity. Upon the expiration of the term of a licensed product in the Moderna DT or Moderna RT program, the licenses granted to Moderna will survive and become perpetual, fully paid and royalty-free. Each party may terminate the Moderna Agreement on a program-by-program basis upon written notice to the other party for an uncured material breach or insolvency. We may terminate the Moderna Agreement upon written notice to Moderna for a patent challenge. Additionally, Moderna may terminate the agreement at its convenience with respect to Moderna DT or Moderna RT programs for any reason upon at least: (a) 60 days' prior written notice if a first commercial sale has not occurred for the products in such program, or (b) 180 days' prior written notice if a first commercial sale of a product in such program has occurred.

We concluded that the Moderna DT and Moderna RT programs are in the scope of ASC 606. We determined that the licenses granted to Moderna, and its participation in the joint steering committee are not capable of being distinct from the preclinical research and development services and therefore concluded that there are two performance obligations: (1) the Moderna RT program and (2) the Moderna DT program. We also concluded that the option to obtain an exclusive license and options to extend Moderna RT program term do not include significant incremental discounts, and as such, the options do not provide material rights.

We concluded the DT Co-Co program research activities are within the scope of ASC 808, as we and Moderna are both active participants in the research, development and commercialization activities, are exposed to significant risks and rewards that are dependent on the success of the DT Co-Co program activities and share costs and profits equally. We determined that the guidance in ASC 730, *Research and Development*, was appropriate to apply to the DT Co-Co program research activities by analogy, based on the nature of the cost sharing provisions of the agreement. We concluded that DT Co-Co program is one unit of accounting, as the co-exclusive license is not distinct from the research and development and the participation in joint steering committee activities. We recognize payments to or from Moderna related to the DT Co-Co program cost sharing research activities as an increase to or reduction of research and development expenses, respectively.

We concluded that the Moderna Collaboration Agreement and the Moderna Convertible Promissory Note Agreement should be combined and treated as a single arrangement for accounting purposes as the agreements were entered into contemporaneously and in contemplation of one another. We estimated the contract consideration to be $90.0 million, which consisted of: 1) the non-refundable upfront collaboration payment of $40.0 million received in 2021, 2) $30.0 million in cash received in 2021 in exchange for the convertible promissory note and 3) the estimated cost reimbursements for Moderna DT and Moderna RT programs of $20.0 million. We constrained future milestones, as we assessed that it is probable that the inclusion of such variable consideration could result in a significant reversal of cumulative revenue in future

periods. During the year ended December 31, 2021, we recorded $30.0 million of the contract consideration for the convertible promissory note based on the fair value (see Note 9 in our audited consolidated financial statements included elsewhere in this prospectus) and allocated the transaction price of $60.0 million to each of the following programs on a relative standalone selling price basis: 1) $49.5 million to the Moderna RT program, 2) $5.5 million to the Moderna DT program, and 3) $5.0 million to the DT Co-Co program.

The variable consideration is reevaluated at each reporting period and as changes in circumstances occur. We recognize revenue for each of the Moderna DT and Moderna RT programs as collaboration revenue based on the measure of progress using an estimated cost-based input method each reporting period. We also amortize the allocation consideration for the DT Co-Co program of $5.0 million as a credit to research and development expenses during the discovery and lead optimization phases for the DT Co-Co program.

We recognized collaboration revenue of $0.2 million and $14.5 million in the consolidated statements of operations and comprehensive loss for the years ended December 31, 2021 and 2022, respectively. We recognized collaboration revenue of $10.7 million and $14.2 million in the condensed consolidated statements of operations and comprehensive loss for the nine months ended September 30, 2022 and 2023, respectively. As of September 30, 2023, the Company recorded $1.5 million in accounts receivable on the condensed consolidated balance sheet, related to services performed. As of December 31, 2022 and September 30, 2023, deferred revenue related to the Moderna Agreement was $30.2 million and $17.2 million, respectively. Collaboration revenue recognized during the nine months ended September 30, 2022 and 2023 included $10.7 million and $14.2 million that was included in deferred revenue as of December 31, 2021 and 2022, respectively. The value of the transaction price allocated to the remaining unsatisfied portion of the performance obligations was approximately $27.8 million as of September 30, 2023, which we expect to recognize as revenue over the next two-to-three years.

We recognized $0.2 million and $0.3 million in credits to research and development expenses related to cost sharing allocation and amortization of the collaboration advance, respectively, within research and development expenses in the consolidated statement of operations and comprehensive loss during the year ended December 31, 2021. We recognized $0.9 million and $3.5 million in credits to research and development expenses related to cost sharing allocation and amortization of the collaboration advance, respectively, during the year ended December 31, 2022. We recognized $0.5 million and $2.7 million in credits to research and development expenses related to cost sharing allocation and amortization of the collaboration advance, respectively, within research and development expenses in the condensed consolidated statement of operations and comprehensive loss during the nine months ended September 30, 2022. We recognized $0.3 million and $0.5 million in credits to research and development expenses related to cost sharing allocation and amortization of the collaboration advance during the nine months ended September 30, 2023, respectively. As of December 31, 2022, the collaboration advance balance was $1.1 million, partially offset by the cost-sharing receivable balance of $0.4 million, which was presented as a collaboration advance on our condensed consolidated balance sheet. As of September 30, 2023, the collaboration advance balance was $0.7 million, partially offset by the cost-sharing receivable balance of $0.2 million, which was presented as a collaboration advance on our condensed consolidated balance sheet.

For additional information regarding the Moderna Agreement, please see the section titled “Business—Our License and Collaboration Agreements.”

Affini-T Development, Option and License Agreement

On June 14, 2022, the effective date, we entered into a Development, Option and License Agreement (the “Affini-T Agreement”) with Affini-T. Pursuant to the Affini-T Agreement, we and Affini-T have agreed to identify,

develop or optimize certain reagents using our proprietary technology for Affini-T to use such reagents to develop and commercialize gene edited TCR-based therapeutic products exclusively in the field of treatment, prevention or diagnosis of any human cancer using products with any engineered primary TCR alpha/beta T cells and non-exclusively in the field of treatment, prevention or diagnosis of any human cancer using products with certain other engineered immune cells worldwide. A joint steering committee was established by both parties to assign alliance managers and project leaders to oversee the collaboration activities.

Pursuant to the Affini-T Agreement, we granted Affini-T options to receive, on a pre-specified target-by-pre-specified target basis, for up to six pre-specified targets, either (i) an exclusive, royalty-bearing, sublicensable worldwide license under all of our applicable intellectual property to research, develop, manufacture, use, commercialize and otherwise exploit any TCR-based therapy, preventative treatment, or diagnostic for humans that is directed to such pre-specified target, contains or comprises Primary TCR alpha/beta T Cells and is derived from *ex vivo* application of our reagent (the "Exclusive Option") or (ii) a non-exclusive, royalty-bearing, sublicensable worldwide license under all our applicable intellectual property to research, develop, manufacture, use commercialize and otherwise exploit any TCR-based therapy, preventative treatment, or diagnostic for humans that is directed to such pre-specified target, contains or comprises TCR natural killer ("NK") cells derived from iPSC immune cells or TCR T cells derived from donor-derived or iPSC immune cells. Affini-T can exercise its options for either an exclusive license or a non-exclusive license, or both, for each pre-specified target by providing written notice prior to the earlier of (x) the end of the Affini-T Agreement term or (y) 90 days following the filing of an IND for a licensed product directed to a pre-specified target, subject to the payment of certain fees per each option exercised. After the option exercise, Affini-T has agreed to use commercially reasonable efforts to conduct all development and commercialization activities for a licensed product, and development and commercialization of all licensed products will be at Affini-T's sole cost and expense.

In connection with the Affini-T Agreement, we received upfront equity consideration of 719,920 shares of Affini-T's common stock with an estimated fair value of $1.3 million in June 2022. The fair value of Affini-T's shares of common stock was estimated by our management, considering the most recent third-party valuation. Affini-T has also agreed to reimburse us for expenses incurred while performing research activities under the research plans. As of September 30, 2023, we received a total of $3.2 million from Affini-T related to reimbursable expenses. Additionally, we are eligible to receive (i) 933,650 shares of Affini-T's common stock upon the achievement of a regulatory milestone, which is the earlier of a submission of a drug master file to the FDA or an acceptance of an IND filing for a licensed product by the FDA, (ii) up to $18.8 million in future developmental milestone payments depending on the completion of or the number of patients dosed in, the relevant human clinical trial, or the initiation of a pivotal trial, and $40.6 million in future regulatory approval milestone payments, which include regulatory approvals in the U.S. and other markets for licensed products directed to a pre-specified target if options for both exclusive and non-exclusive licenses are exercised with respect to such target, (iii) up to $250.0 million in sales-based milestones for aggregate sales of all licensed products directed to a given pre-specified target and (iv) royalties ranging from a low-single digit to high-single digit percentage of worldwide annual net sales of licensed products.

The initial term of the Affini-T Agreement is five years from the effective date. If Affini-T exercises an Exclusive Option with respect to any pre-specified target during the initial term, the initial term will be extended by an additional five years. Following the expiration of the extended term, if any, the agreement will continue on a target-by-target basis and expire with respect to such target upon the expiration of the royalty term for all licensed products directed to such target. The Affini-T Agreement may be terminated during the term by either party for an uncured material breach by, or bankruptcy of, the other party. Additionally, Affini-T may terminate the Affini-T Agreement for convenience, in its entirety, on a research plan-by-research plan basis, on a target-by-target basis or on a licensed product-by-licensed product basis, by providing prior written notice.

We concluded that the Affini-T Agreement is in the scope of ASC 606 and that there is one performance obligation to perform research activities under the Affini-T Agreement. Exclusive and non-exclusive licenses are optional contingent purchases that do not include significant incremental discounts, and therefore do not provide a material right.

At the effective date, the transaction price consisted of the upfront equity consideration with an estimated fair value of $1.3 million and estimated research reimbursement costs. Research reimbursement costs represent variable consideration, and our management estimates what portion to include in total consideration at the end of each reporting period. Other payments under the Affini-T Agreement, including additional equity consideration and development and regulatory milestones, also represent variable consideration, and are constrained to the extent that the inclusion of such variable consideration could result in a significant reversal of cumulative revenue in future periods. As of December 31, 2022 and September 30, 2023, additional equity consideration and future development and regulatory milestone payments were excluded from the estimated total transaction price as they were considered constrained. The transaction price is reevaluated in each reporting period and as changes in circumstances occur. We recognize revenue each reporting period based on the measure of progress using an estimated cost-based input method.

We recognized $2.6 million in collaboration revenue in the consolidated statements of operations and comprehensive loss during the year ended December 31, 2022. We recognized $0.9 million and $3.7 million in collaboration revenue in the condensed consolidated statements of operations and comprehensive loss during the nine months ended September 30, 2022 and 2023, respectively. As of December 31, 2022, we recorded $1.3 million in contract assets on the consolidated balance sheet, related to services performed but not invoiced. There was no contract asset related to services performed as of September 30, 2023. As of September 30, 2023, we recorded $2.4 million in accounts receivable on the condensed consolidated balance sheet, related to services performed. As of December 31, 2022 and September 30, 2023, deferred revenue related to the Affini-T Agreement was zero and $0.6 million, respectively. In June 2023, the joint steering committee approved the budget for estimated research reimbursement costs for the Affini-T Agreement, which resulted in a $2.4 million reduction to variable consideration. The value of the transaction price allocated to the remaining unsatisfied portion of the performance obligation was approximately $2.1 million as of September 30, 2023, which we expect to recognize as revenue over the next four-to-five years.

For additional information regarding the Affini-T Agreement, please see the section titled “Business—Our License and Collaboration Agreements.”

Ionis Collaboration and License Agreement

On November 10, 2022, the effective date, we entered into a Collaboration and License Agreement (the “Ionis Agreement”) with Ionis to collaborate on drug discovery and exploratory research activities to advance new medicines using gene editing strategies, with the goal of discovering novel medicines. Pursuant to the terms of the Ionis Agreement, we granted Ionis and its affiliates a worldwide exclusive, royalty-bearing license, with the right to grant sublicenses, to use all licensed systems and licensed products in the field of *in vivo* gene editing for all therapeutic, prophylactic, palliative, and analgesic uses in humans. In connection with the Ionis Agreement, we also have the right to exercise an exclusive option to co-develop and co-commercialize certain products under a drug discovery program. A joint steering committee was established by both parties to coordinate, oversee, and monitor the research and drug discovery activities under the Ionis Agreement.

We will collaborate to discover therapeutic products under a drug discovery program and develop a drug discovery plan for each target, selected by Ionis. The target selection is divided into two waves: up to four targets in Wave 1 and up to four targets in Wave 2. For each drug discovery program, once the parties identify a

development candidate that is suitable for further development, Ionis will be responsible for the development and commercialization of products resulting from such program. Per the terms of the Ionis Agreement, at any time prior to the designation of a development candidate for a drug discovery program and for any reason, Ionis may replace the collaboration target, provided such target has not previously been substituted out. Ionis may substitute (i) up to two Wave 1 targets and (ii) up to two Wave 2 targets.

The drug discovery activities for a program commence on the selection of a target and expire upon the earlier of (a) completion of all drug discovery activities for such program, (b) the fifth anniversary of the effective date and (c) selection of a development candidate for such drug discovery program. If one or more Wave 2 targets become collaboration targets as a result of the parties achieving enabled delivery and less than two years are remaining in the drug discovery term, then the term will be extended to the earlier of (i) the time that we complete all of our activities under the applicable drug discovery plan and (ii) the seventh anniversary of the effective date, subject to our consent.

We will also conduct an exploratory research program, and will jointly optimize gRNA and select delivery technologies and other activities. The exploratory research activities commence on the effective date and expire upon the earlier of (a) completion of all exploratory research activities established in the exploratory research plan, and (b) the fifth anniversary of the effective date.

We have the exclusive option to co-develop and co-commercialize the licensed products under a drug discovery program (the “Co-Co Option”) with Ionis. The Co-Co Option may be exercised for (a) the initial Wave 1 target (“Target 1”), (b) no more than one of the other three discovery programs for the Wave 1 targets, and (c) no more than two drug discovery programs for the Wave 2 targets that become collaboration targets. If we exercise the Co-Co Option for a particular drug discovery program, that drug discovery program will automatically be deemed a “Co-Co Program”, all corresponding licensed products be deemed “Co-Co Products,” we will be obligated to pay Ionis an option exercise fee, and we and Ionis will enter into a separate co-development and co-commercialization agreement. The Co-Co Option exercise fee will equal 50% of Ionis’ internal costs and out-of-pocket costs incurred in the conduct of the drug discovery activities prior to the exercise of the Co-Co Option and be reduced by 50% of our corresponding costs incurred. Future development and commercialization costs will be shared equally. We may elect to reduce our cost-share percentage anywhere between 50% and 25% on a go-forward basis, provided we will continue to bear 50% of the costs of any clinical trials ongoing at the time of the election through the completion of the clinical trials. We will manufacture all licensed systems and certain components of the applicable licensed products that are needed by Ionis for use in its development activities and all of our manufactured components needed by Ionis for use in its commercialization activities. We will provide the manufactured components at a price that represents the cost of goods plus 15%.

Pursuant to the terms of the Ionis Agreement, we have also been granted an option to obtain a non-exclusive, royalty-bearing license, with the right to grant sublicenses, for certain Ionis’ background technology to use in up to eight therapeutic products discovered by us in the field of *in vivo* gene editing and directed to a Collaboration Target (each such product, a “Metagenomi Product” and each such option an “Ionis IP Option”), but subject to encumbrance checks with respect to particular targets. A Collaboration Target is a target that is selected by Ionis, and, with respect to us, is not the subject of discussions with a third party, is not the subject of a contractual grant of rights to a third party nor the subject of an internal research and development program. If we exercise our Ionis IP Option, we will pay to Ionis up to several million dollars per Metagenomi Product upon achievement of certain clinical and regulatory milestones. We are also obligated to pay Ionis royalties in an amount equal to a low single-digit royalty on the net sales of the applicable Metagenomi Product on product-by-product and country-by-country basis.

In November 2022, we received an $80.0 million upfront payment from Ionis for the Wave 1 drug discovery research collaboration and selected Target 1. Ionis selected its second target ("Target 2") in Wave 1 in December 2022 and its third target ("Target 3") in Wave 1 in November 2023. In November 2023, we agreed to extend the period during which we expect Ionis will select its fourth target ("Target 4") in Wave 1 by an additional three months from the 12-month anniversary of the effective date, as permitted under the arrangement. Ionis has an option to select up to four Wave 2 targets at any time during the drug discovery term, if (a) an IND for any licensed product directed to a Wave 1 target is filed with the applicable regulatory authority or (b) the parties achieve enabled delivery for a non-liver target under the exploratory research activities, by providing written notice and by paying a Wave 2 target selection fee of $15.0 million or $30.0 million, depending on and per the selected target.

Ionis is obligated to reimburse us for all internal costs and out-of-pocket costs incurred in the performance of the exploratory research activities, up to an aggregate of $10.0 million, which is payable in quarterly installments of $0.5 million during the exploratory research term. As of September 30, 2023, we received a total of $1.5 million related to the reimbursable expenses. We are also eligible to receive (a) up to $29.0 million in future development milestone payments for each licensed product; (b) up to $60.0 million in future regulatory milestone payments for each licensed product; (c) up to $250.0 million in sales-based milestones for each licensed product; and (d) royalties on annual net sales of licensed products from a mid-single-digit to low-teens percentage, subject to customary reductions.

The term of the Ionis Agreement will continue (i) with respect to the drug discovery programs, until the expiration of all applicable royalty terms for a licensed product, (ii) with respect to the Co-Co Programs, until the parties cease all exploitation for the Co-Co Products that are the subject to such Co-Co Program, and (iii) with respect to the Metagenomi Products, until the expiration of the royalty term for a Metagenomi Product. The royalty term ends on the latest of the following two dates: (i) the expiration of (A) the last claim of any issued and unexpired patent, or (B) a claim within a patent application that has not been pending for more than seven years from the earliest date to which the claim or applicable patent application is entitled to claim priority and which claim has not been revoked, cancelled, withdrawn, held invalid, or abandoned, or (ii) 12 years following the first commercial sale of a licensed product.

The Ionis Agreement may be terminated during the term by either party for an uncured material breach or bankruptcy by the other party. Additionally, Ionis may terminate the Ionis Agreement for convenience and without penalty, in its entirety or on a licensed product-by-licensed product basis, by providing 90 days' written notice.

We concluded that the Ionis Agreement is in the scope of ASC 606 at the effective date and until we exercise our Co-Co Option for any drug discovery program, which was determined to not be probable at the effective date and as of December 31, 2022 and September 30, 2023. We also concluded that exclusive licenses and participation in a joint steering committee are not distinct from discovery research services and should thus be combined into one performance obligation (the "discovery program"). We also concluded that exploratory research services are a separate and distinct performance obligation (the "exploratory program"). As the Ionis options for Wave 2 targets are optional purchases and do not have significant incremental discounts, as such, the options do not provide material rights.

We allocated the total estimated transaction price of $90.0 million, which consisted of an $80.0 million upfront payment received in November 2022 and a $10.0 million reimbursement for research costs, into two performance obligations, and was determined based on their estimated standalone selling prices. We concluded that future development and commercial supply agreements are at market terms, as the terms were consistent with industry standards as of the effective date. We constrain future milestone payments under the arrangement to the extent that the inclusion of such variable consideration could result in a significant reversal

of cumulative revenue in future periods. We constrained all development and regulatory milestone payments at the effective date and as of December 31, 2022 and September 30, 2023. We are recognizing revenue of $80.0 million related to the discovery program and of $10.0 million related to exploratory program over the research terms using an estimated cost-based input method as a measure of progress for each obligation.

We recognized $0.1 million in collaboration revenue in the consolidated statements of operations and comprehensive loss during the year ended December 31, 2022. We recognized $14.4 million in collaboration revenue in the condensed consolidated statements of operations and comprehensive loss during the nine months ended September 30, 2023, which was included in deferred revenue as of December 31, 2022. As of December 31, 2022 and September 30, 2023, deferred revenue related to the Ionis Agreement was $79.9 million and $67.0 million, respectively. The value of the transaction price allocated to the remaining performance obligations was approximately $75.5 million as of September 30, 2023, which we expect to recognize as revenue over the next four-to-five years.

For additional information regarding the Ionis Agreement, please see the section titled “Business—Our License and Collaboration Agreements.”

Amendment to the LLC Agreement

Our LLC Agreement was amended on July 31, 2023 to provide for “catch-up” distributions for profits interests once the applicable catch-up threshold amount for such profits interests was met (the “Amendment to the LLC Agreement”).

The LLC Agreement provides each profits interest with a distribution threshold amount, which is determined on the date of issuance and represents the amount that would be distributed if, immediately after issuance, we sold all of our assets at fair market value and distributed the net proceeds in liquidation. A profits interest does not participate in our distributions until an amount equal to its distribution threshold amount has been distributed to our other members with units that either have a lower threshold amount or no threshold amount.

Once the applicable distribution threshold amount has been met for a particular profits interest, such profits interest will participate in our distributions on a pro rata basis until the catch-up threshold amount has been met. Once the catch-up threshold amount has been met, subsequent “catch-up” distributions will be made solely to holders of profits interests until such holders have received an amount equal to the amount such holders would have received had the distribution threshold not existed. Once the profits interest holders have received distributions in an amount equal to what they would have received had the distribution threshold not existed, all subsequent distributions are made on a pro rata basis with common unitholders.

The catch-up threshold amount of $11.84 per unit reflected the estimated fair value of the common unit as of July 31, 2023, as determined by our board of managers, with input from management, and considering our most recently available third-party valuation of common units. The amendment to the LLC Agreement resulted in a change to the fair value of the profits interests and is accounted for as a modification of the profits interests’ awards. We estimated total modification expense of $10.3 million. We recognized $1.1 million associated unit-based compensation expense related to vested profits interests as of the modification date, and the remaining $9.2 million is expected to be recognized over the next 3.3 years, as profits interests continue to vest.

Reorganization

We currently operate as a Delaware limited liability company under the name Metagenomi Technologies, LLC. Prior to the effectiveness of this registration statement, we intend to complete a series of transactions pursuant to which Metagenomi Technologies, LLC will merge with and into its wholly-owned subsidiary, Metagenomi, Inc., a

Delaware corporation, with Metagenomi, Inc. continuing as the surviving corporation. In connection with the Reorganization (i) all of the outstanding common unitholders of Metagenomi Technologies, LLC will receive shares of common stock of Metagenomi, Inc., (ii) all of the outstanding redeemable convertible preferred unitholders of Metagenomi Technologies, LLC will receive shares of redeemable convertible preferred stock of Metagenomi, Inc. and (iii) all of the outstanding holders of profits interests in Metagenomi Technologies, LLC will receive shares of common stock or restricted common stock in Metagenomi, Inc. For more information on the Reorganization, see the section titled “Reorganization” included elsewhere in this prospectus.

Components of Results of Operations

Collaboration Revenue

We have not generated any revenue from product sales and do not expect to generate any revenue from the sale of products for the foreseeable future. Our ability to generate product revenues will depend on the successful development and eventual commercialization of any product candidates that we identify. If we fail to complete the development of any future product candidates in a timely manner or to obtain regulatory approval for such product candidates, our ability to generate future revenue and our results of operations and financial position would be materially adversely affected.

To date, all of our revenue consists of collaboration revenue, earned from collaboration agreements with Moderna, Ionis and Affini-T. These agreements may include the following types of promised goods or services: (i) grants of licenses, (ii) performance of research and development services and (iii) participation on joint research and/or development committees. They also may include options to obtain licenses to our intellectual property or to extend the term of the research activities. Our revenues under such collaboration agreements were $0.2 million and $17.2 million for the years ended December 31, 2021 and 2022, respectively. Our revenues under collaboration agreements were $11.6 million and $32.4 million for the nine months ended September 30, 2022 and 2023, respectively.

For additional information about our revenue recognition policy related to our collaboration agreements, refer to Note 2 in our audited consolidated financial statements included elsewhere in this prospectus.

Operating Expenses

Our operating expenses consist of (i) research and development expenses and (ii) general and administrative expenses.

Research and Development

The largest component of our total operating expenses since our inception has been research and development activities. Research and development expenses consist primarily of compensation and benefits for research and development employees, including unit-based compensation; the costs of acquiring research and development supplies and services; manufacturing process development costs; the research and development expenses that we share with our collaboration partners for co-development programs; other outside services and consulting costs; and allocated facilities, information technology and overhead expenses. Research and development costs are expensed as incurred.

We have not reported program costs since our inception because we have not historically tracked or recorded our research and development expenses on a program-by-program basis. We use our personnel and infrastructure resources across the breadth of our research and development activities, which are directed toward developing our platform.

We expect our research and development expenses to increase substantially for the foreseeable future as we continue to invest in research and development activities related to developing our platform, including investments in manufacturing, as we advance our programs and conduct clinical trials. The process of conducting the necessary clinical research to obtain regulatory approval is costly and time-consuming, and the successful development of our platform is highly uncertain. As a result, we are unable to determine the duration and completion costs of our research and development projects, the costs of related clinical development costs or when and to what extent we will generate revenue from the commercialization of our platform.

General and Administrative

General and administrative expenses consist primarily of personnel costs, including unit-based compensation expense and other expenses for outside professional services, including legal fees relating to intellectual property and corporate matters; professional fees for accounting, auditing, consulting and tax services; insurance costs; administrative travel expenses; website development costs; marketing and public relations costs; and facilities, information technology and other allocated overhead costs.

We anticipate that our general and administrative expenses will increase in the future as we increase our headcount to support development of our platform and our continued research activities. We also anticipate that we will incur increased accounting, audit, legal, regulatory, compliance and director and officer insurance costs as well as investor and public relations expenses associated with being a public company. We also expect our intellectual property expenses to increase as we expand our intellectual property portfolio.

Total Other Income, Net

Total other income, net includes interest income from our investments in available-for-sale marketable securities, grant income, change in fair value of our investments in the Affini-T convertible note, preferred stock and common stock shares related to our investment in Affini-T interest expense on the Moderna convertible note issued in November 2021, which was converted into redeemable convertible preferred units in January 2022.

Provision for Income Taxes

Metagenomi Technologies, LLC is taxed under the provisions of Subchapter K — Partners and Partnerships of the Internal Revenue Code. Under those provisions, Metagenomi Technologies, LLC does not pay federal or state corporate income taxes on its taxable income. Instead, each member includes net operating income or loss for Metagenomi on its individual return.

The wholly owned subsidiary of Metagenomi Technologies, LLC, Metagenomi Inc., is a corporation for tax purposes and is subject to income taxes. We recognized income tax expense for the year ended December 31, 2022 and for the nine months ended September 30, 2022 and 2023 for domestic federal and state income taxes. After giving effect to this offering, Metagenomi, Inc. will continue as the surviving corporation.

As of December 31, 2022, we had net operating loss carryforwards of $0.02 million and $8.3 million for federal and state income tax purposes, respectively, available to reduce future taxable income, if any. The federal net operating loss carryforwards do not expire. State net operating loss carryforwards begin expiring in 2037. As of December 31, 2022, we had state research and development credit carryforwards of $2.8 million, which do not expire. As of December 31, 2022, we had no federal research and development credit carryforwards.

A valuation allowance is provided for deferred tax assets where the recoverability of the assets is uncertain. The determination to provide a valuation allowance is dependent upon the assessment of whether it is more likely than not that sufficient future taxable income will be generated to utilize the deferred tax assets. Based on the weight of the available evidence, which includes our consolidated entities' historical operating losses and forecast of future losses, we have provided a full valuation allowance against the deferred tax assets resulting from the tax loss and credits carried forward.

Utilization of the net operating loss and credit carryforwards may be subject to a substantial annual limitation due to an ownership change limitation as provided by section 382 of the Internal Revenue Code, as amended, and similar state provisions. The annual limitation may result in the expiration of net operating losses and credits before utilization. In the event that we have a change of ownership, utilization of the net operating loss and tax credit carryforwards may be restricted.

Results of Operations

Comparison of the Nine Months Ended September 30, 2022 and 2023

The following table summarizes our results of operations for the nine months ended September 30, 2022 and 2023 (in thousands):

	Nine Months ended September 30,		Change
	2022	2023	$
Collaboration revenue	$ 11,605	$ 32,357	$ 20,752
Operating expenses:			
Research and development	28,082	69,648	41,566
General and administrative	12,397	21,005	8,608
Total operating expenses	40,479	90,653	50,174
Loss from operations	(28,874)	(58,296)	(29,422)
Other income (expense)			
Interest expense	(98)	—	98
Interest income	1,489	11,836	10,347
Change in fair value of long-term investments	94	2,870	2,776
Other income (expense), net	146	(70)	(216)
Total other income, net	1,631	14,636	13,005
Net loss before provision for income taxes	(27,243)	(43,660)	(16,417)
Provision for income taxes	(1,723)	(5,301)	(3,578)
Net loss	$(28,966)	$(48,961)	$(19,995)

Collaboration Revenue

Our revenue consists of collaboration revenue recognized under our agreements with Moderna, Affini-T and Ionis. We recognize revenue as the performance obligations are satisfied. Collaboration revenue increased by $20.8 million, from $11.6 million for the nine months ended September 30, 2022 to $32.4 million for the nine months ended September 30, 2023. The increase in collaboration revenue for the nine months ended September 30, 2023, was primarily driven by an increase in revenue of $14.4 million related to the Ionis agreement, which we entered in November 2022. We did not recognize revenue under this agreement during the nine months ended September 30, 2022. Collaboration revenue related to Moderna and Affini-T agreements

increased by $6.3 million for the nine months ended September 30, 2023 compared to the nine months ended September 30, 2022, as we performed more services and our collaboration activities progressed.

The collaboration revenue for the nine months ended September 30, 2022 and 2023 included the following (in thousands):

	Nine Months ended September 30,		Change
	2022	2023	$
Moderna	$10,710	$14,197	$ 3,487
Affini-T	895	3,744	2,849
Ionis	—	14,416	14,416
Total collaboration revenue	$11,605	$32,357	$20,752

Research and Development Expenses

The following table summarizes our research and development expenses for the periods indicated (in thousands):

	Nine Months ended September 30,		Change
	2022	2023	$
Personnel-related costs	$15,132	$28,099	$12,967
Laboratory materials and supplies	7,302	15,361	8,059
Facilities and overhead costs	4,856	15,431	10,575
Other research and development expenses and consulting costs	792	10,757	9,965
Total research and development expenses	$28,082	$69,648	$41,566

Research and development expenses increased by $41.6 million, from $28.1 million for the nine months ended September 30, 2022 to $69.6 million for the nine months ended September 30, 2023.

Personnel-related costs, including employee payroll and related expenses, increased by $13.0 million, including a $1.6 million increase in unit-based compensation expense, as a result of increased headcount in our research and development organization, increase in fair value of common units and recognition of modification expense resulting from the Amendment to the LLC Agreement in July 2023. Laboratory materials and supplies increased by $8.1 million due to significant expansion of our research and development operations. Facilities and allocated overhead costs, including rent and facilities, depreciation and amortization, repairs and maintenance and information technology-related expenses allocated to research and development increased by $10.6 million, including a $5.8 million increase in rent and facilities expenses as we entered into a new lease agreement in November 2022 that commenced in January 2023, and a $1.9 million increase in depreciation and amortization expense as we continue investing in our manufacturing facility. Other research and development and consulting costs increased by $10.0 million mainly due to external research and development costs of $5.9 million and consulting services of $1.6 million to support our research and pre-clinical development activities.

Other research and development and consulting costs include expenses related to the DT Co-Co program under the Moderna Agreement. Each quarter, a true-up is performed to calculate how much is owed by us or Moderna to equally split the costs incurred during the quarter towards the DT Co-Co program. When Moderna owes a payment to us, we account for this as a reduction of research and development expense. When we owe a

payment to Moderna, we account for this as an addition to research and development expense. For the nine months ended September 30, 2022 and 2023, the total cost true-ups reduced our research and development expenses by $0.5 million and $0.3 million, respectively. Additionally, we amortized $2.7 million and $0.5 million of the upfront $5.0 million payment received from Moderna allocated to the DT Co-Co program to offset our share of the DT Co-Co development costs for the nine months ended September 30, 2022 and 2023, respectively.

General and Administrative Expenses

General and administrative expenses increased by $8.6 million, from $12.4 million for the nine months ended September 30, 2022 to $21.0 million for the nine months ended September 30, 2023, as we continued expanding our operations to support our business strategy and the development of therapeutic programs utilizing our metagenomics platform.

Employee payroll and related expenses increased by $4.5 million, including a $1.7 million increase in unit-based compensation expense, as a result of increase in headcount of our executives and administrative personnel, increase in fair value of common units and recognition of modification expense resulting from the Amendment to the LLC Agreement in July 2023. Expenses related to professional consulting services increased by $3.7 million due to increased spending on consulting and outside services to support our growing operations. Other general and administrative expenses, including rent, facilities, insurance, information technology, office supplies, subscriptions and licenses and other miscellaneous expenses, increased by $0.4 million.

Total Other Income, Net

Total other income, net, increased by $13.0 million, from $1.6 million net income for the nine months ended September 30, 2022 to $14.6 million for the nine months ended September 30, 2023.

Interest income, which includes interest income and amortization of premiums and discounts on our investments in available-for sale marketable securities, increased by $10.3 million from $1.5 million for the nine months ended September 30, 2022 to $11.8 million for the nine months ended September 30, 2023, due to increased investment activity and higher interest rates during the nine months ended September 30, 2023.

The change in fair value of long-term investments increased by $2.8 million, from $0.1 million for the nine months ended September 30, 2022 to $2.9 million for the nine months ended September 30, 2023, as our investment in Affini-T was re-measured at fair value. For more details on our investment in Affini-T, refer to Note 5 in our unaudited condensed consolidated financial statements included elsewhere in this prospectus.

Provision for Income Taxes

We recognized an income tax provision as a result of our taxable income related to upfront payments received under the Moderna and Ionis agreements and the change in the net capitalization of our research and development expenses under the newly enacted Internal Revenue Code Section 174 (“Section 174”), which became effective on January 1, 2022. Section 174 changed the tax treatment of research and experimentation (R&E) expenditures, which requires the capitalization of R&E expenditures over a period of five years for R&E paid or incurred in the United States and 15 years for R&E paid or incurred outside of the United States.

For the nine months ended September 30, 2022 and 2023, we recorded a provision for income taxes of $1.7 million and $5.3 million by applying the estimated annual effective tax rate to the year-to-date measure of ordinary income, respectively. The increase in the income tax provision during the nine months ended September 30, 2023 is primarily due to the increase in forecasted research and development spend, which

results in corresponding increases to Section 174 capitalization, and taxable income related to the Ionis upfront payment which is partially offset by an increase in forecasted research and development credit.

Comparison of the Years Ended December 31, 2021 and 2022

The following table summarizes our results of operations for the years ended December 31, 2021 and 2022 (in thousands):

	Years ended December 31,		Change
	2021	2022	$
Collaboration revenue	$ 243	$ 17,200	$ 16,957
Operating expenses:			
Research and development	14,478	43,139	28,661
General and administrative	9,712	18,701	8,989
Total operating expenses	24,190	61,840	37,650
Loss from operations	(23,947)	(44,640)	(20,693)
Other income (expense)			
Interest expense	(302)	(98)	204
Interest income	43	3,419	3,376
Change in fair value of long-term investments	2,760	94	(2,666)
Other income, net	4	201	197
Total other income, net	2,505	3,616	1,111
Net loss before provision for income taxes	(21,442)	(41,024)	(19,582)
Provision for income taxes	—	(2,569)	(2,569)
Net loss	$(21,442)	$(43,593)	$(22,151)

Collaboration Revenue

Our revenue consists of collaboration revenue recognized under our agreements with Moderna, Affini-T and Ionis. We recognize revenue as the performance obligations are satisfied. Collaboration revenue increased by $17.0 million, from $0.2 million for the year ended December 31, 2021 to $17.2 million for the year ended December 31, 2022. The increase in collaboration revenue for the year ended December 31, 2022, was primarily driven by a $14.3 million increase in revenue related to the Moderna Agreement as our research and collaboration activities progressed and a $2.7 million increase related to the Affini-T and Ionis agreements, which we entered into in June and November 2022, respectively.

The collaboration revenue for the years ended December 31, 2021 and 2022 included the following:

	Years ended December 31,		Change
	2021	2022	$
Moderna	$243	$14,518	$14,275
Affini-T	—	2,570	2,570
Ionis	—	112	112
Total collaboration revenue	$243	$17,200	$16,957

Research and Development Expenses

The following table summarizes our research and development expenses for the periods indicated (in thousands):

	Years ended December 31,		Change
	2021	2022	$
Personnel-related costs	$ 6,962	$22,436	$15,474
Laboratory materials and supplies	3,514	10,518	7,004
Facilities and overhead costs	3,119	7,325	4,206
Other research and development expenses and consulting costs	883	2,860	1,977
Total research and development expense	$14,478	$43,139	$28,661

Research and development expenses increased by $28.7 million, from $14.5 million for the year ended December 31, 2021 to $43.1 million for the year ended December 31, 2022.

Personnel-related costs, including employee payroll and related expenses, increased by $15.5 million, including a $0.7 million increase in unit-based compensation expense, as a result of increased headcount in our research and development organization. Laboratory materials and supplies increased by $7.0 million due to significant expansion of our research and development operations. Facilities and allocated overhead, including rent, repairs and maintenance costs, common facilities and information technology related expenses allocated to research and development increased by $4.2 million as a result of the expansion of our business operations. Other research and development and consulting costs increased by $2.0 million due to increases in external consulting services to support our research and pre-clinical development activities.

Other research and development and consulting costs include expenses related to the DT Co-Co program under our collaboration agreement with Moderna. Each quarter, a true-up is performed to calculate how much is owed by us or Moderna to equally split the costs incurred during the quarter towards the DT Co-Co program. When Moderna owes a payment to us, we account for this as a reduction of research and development expense. When we owe a payment to Moderna, we account for this as an addition to research and development expense. For the years ended December 31, 2021 and 2022, the total cost true-ups reduced our research and development expenses by $0.2 million and $0.9 million, respectively. Additionally, for the year ended December 31, 2021, $5.0 million of the upfront payment received under the Moderna Agreement in November 2021 was allocated to the DT Co-Co program, which was presented as a collaboration advance on our consolidated balance sheet. For the years ended December 31, 2021 and 2022, $0.3 million and $3.5 million of this upfront payment was amortized, respectively, to offset our share of the DT Co-Co development costs.

General and Administrative Expenses

General and administrative expenses increased by $9.0 million, from $9.7 million for the year ended December 31, 2021 to $18.7 million for the year ended December 31, 2022.

Employee payroll and related expenses increased by $3.3 million, including a $0.7 million increase in unit-based compensation expense, as a result of increase in headcount of our executives and administrative personnel. Expenses related to professional consulting services increased by $4.1 million due to increased spending on consulting and outside services to support our growing operations. Other general and administrative expenses, including insurance, information technology, office supplies, subscriptions and licenses, and other miscellaneous expenses, increased by $1.6 million as we continued expanding our operations to support our business strategy and the development of therapeutic programs utilizing our metagenomics platform.

Total Other Income, Net

Total other income, net, increased by $1.1 million, from $2.5 million net income for the year ended December 31, 2021 to $3.6 million for the year ended December 31, 2022.

Interest income, which includes interest income and amortization of premiums and discounts on our investment in available-for sale marketable securities, increased by $3.4 million from $0.04 million for the year ended December 31, 2021 to $3.4 million for the year ended December 31, 2022, due to increased investment activity and higher interest rates during the year ended December 31, 2022.

The change in fair value of long-term investments decreased by $2.7 million, from $2.8 million for the year ended December 31, 2021 to $0.1 million for the year ended December 31, 2022, as our investment in the Affini-T convertible promissory note was re-measured at fair value and converted to preferred stock shares of Affini-T in March 2022. For more details on our investment in the Affini-T convertible promissory note, refer to Note 5 in our audited consolidated financial statements included elsewhere in this prospectus.

Provision for Income Taxes

We recognized an income tax provision of $2.6 million for the year ended December 31, 2022 as a result of our taxable income related to an upfront payment received under the Moderna Agreement and the change in the net capitalization of our research and development expenses under the newly enacted Internal Revenue Code Section 174 (“Section 174”), which became effective on January 1, 2022. Section 174 changed the tax treatment of research and experimentation (R&E) expenditures, which requires the capitalization of R&E expenditures over a period of five years for R&E paid or incurred in the United States and 15 years for R&E paid or incurred outside of the United States. We did not recognize income taxes for the year ended December 31, 2021.

Liquidity and Capital Resources

Sources of Liquidity

Since our inception, we have incurred significant operating losses. We have historically funded our operations primarily through sales of our redeemable convertible preferred units and convertible promissory notes, which generated approximately $351.6 million in aggregate gross proceeds. Additionally, through September 30, 2023, we received approximately $120.0 million upfront cash payments from collaboration and licensing agreements. As of September 30, 2023, we had $292.9 million in cash, cash equivalents and available-for-sale marketable securities.

Future Funding Requirements

We expect our expenses to increase substantially in connection with our ongoing activities, particularly as we advance the development of our platform. In addition, upon the completion of this offering, we expect to incur additional costs associated with operating as a public company. The timing and amount of our operating expenditures will depend largely on:

- the timing and progress of research and development, preclinical and clinical development activities;
- the number, scope and duration of clinical trials required for regulatory approval of our future product candidates;
- the costs, timing, and outcome of regulatory review of any of our future product candidates;
- the costs of manufacturing clinical and commercial supplies of our future product candidates;

- the costs and timing of future commercialization activities, including product manufacturing, marketing, sales and distribution, for any of our future product candidates for which we receive regulatory approval;
- the cost of filing and prosecuting our patent applications, and maintaining and enforcing our patents and other intellectual property rights;
- our ability to maintain existing, and establish new, strategic collaborations, licensing or other arrangements, and the financial terms of any such agreements, including the timing and amount of any future milestone, royalty or other payments due under any such agreement;
- any product liability or other lawsuits related to our future product candidates;
- our implementation of various computerized informational systems and efforts to enhance operational systems;
- expenses incurred to attract, hire and retain skilled personnel;
- the costs of operating as a public company;
- our ability to establish a commercially viable pricing structure and obtain approval for coverage and adequate reimbursement from third-party and government payers;
- the extent to which we acquire or invest in businesses, products, and technologies;
- the effect of competing technological and market developments; and
- the impact of the COVID-19 pandemic, as well as other factors, including inflation, economic uncertainty and geopolitical tensions, which may exacerbate the magnitude of the factors discussed above.

As of September 30, 2023, we had $292.9 million in cash, cash equivalents and available-for-sale marketable securities. We believe that our existing cash, cash equivalents and available-for-sale marketable securities will be sufficient to fund our current operating plan for at least the next 12 months. Based on our current operating plan, we estimate that our existing cash, cash equivalents and available-for-sale marketable securities, together with the estimated net proceeds from this offering, will be sufficient to fund our projected operating expenses and capital expenditure requirements into . We have based this estimate on assumptions that may prove to be wrong, and we could exhaust our available capital resources sooner than we expect. We expect that we will require additional funding to: continue our current research development activities; develop, maintain, expand and protect our intellectual property portfolio; further develop our platform; and hire additional research, clinical and scientific personnel. If we receive regulatory approval for any of our product candidates, we expect to incur significant commercialization expenses related to product manufacturing, sales, marketing and distribution, depending on where we choose to commercialize our products.

Until such time, if ever, as we can generate substantial product revenue, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, strategic alliances, and marketing, distribution or licensing arrangements with third parties. To the extent that we raise additional capital through the sale of equity or convertible debt securities, ownership interest for existing investors may be materially diluted, and the terms of such securities could include liquidation or other preferences that adversely affect existing investors' rights as a stockholder. Debt financing and preferred equity financing, if available, may involve agreements that include restrictive covenants that limit our ability to take specified actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or

product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings or other arrangements when needed, we may be required to delay, reduce or eliminate our product development or future commercialization efforts, or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Cash Flows

The following table summarizes our sources and uses of cash for the periods presented (in thousands):

	Years ended December 31,		Nine Months ended September 30,	
	2021	2022	2022	2023
Net cash provided by (used in) operating activities	$ 24,257	$ 29,724	$ (38,009)	$(70,817)
Net cash used in investing activities	(74,316)	(122,200)	(83,326)	(14,898)
Net cash provided by financing activities	39,922	239,594	144,304	2,346
Net (decrease) increase in cash, cash equivalents and restricted cash	$(10,137)	$ 147,118	$ 22,969	$(83,369)

Cash Flows from Operating Activities

Net cash used in operating activities for the nine months ended September 30, 2022 was $38.0 million. This was primarily due to our net loss for the period of $29.0 million, decreased by net non-cash charges of $3.2 million and increased by a net reduction of $12.2 million in our net operating assets and liabilities. The net non-cash charges primarily consisted of $1.4 million in unit-based compensation expense, $1.0 million in non-cash lease expense and $1.0 million in depreciation and amortization expense. The net change in our operating assets and liabilities primarily consisted of a $14.3 million decrease in deferred revenue and collaboration advances as we recognized collaboration revenue under the Moderna and Affini-T agreements and a $1.4 million increase in prepaid expenses and other current assets, partially offset by a $2.1 million increase in accrued expenses and other current liabilities, a $1.0 million increase in income tax payable and a $0.7 million increase in other non-current liabilities.

Net cash used in operating activities for the nine months ended September 30, 2023 was $70.8 million. This was primarily due to our net loss of $49.0 million, decreased by net non-cash charges of $0.2 million and increased by a net reduction of $22.1 million in our net operating assets and liabilities. The net non-cash charges consisted of $4.5 million in unit-based compensation expense, $3.1 million in non-cash lease expense and $3.0 million in depreciation and amortization expense, all partially offset by $6.9 million credit related to amortization of the discounts on available-for-sale marketable securities, $2.9 million for the change in fair value of our investments in Affini-T and $0.7 million in amortization of non-cash collaboration revenue related to the Affini-T Agreement. The net change in our operating assets and liabilities primarily consisted of a $25.0 million decrease in deferred revenue and collaboration advances as we recognized revenue under our collaboration agreements, and a $3.9 million increase in accounts receivable related to the Affini-T Agreement and the Moderna Agreement, a $1.0 million decrease in operating lease liabilities due to recurring payments under the existing lease agreements, all partially offset by a $2.4 million increase in accounts payable due to the timing of payments to our vendors, a $2.4 million increase in other non-current liabilities, a $1.3 million decrease in contract assets related to the Affini-T Agreement, a $0.7 million increase in accrued expenses and other current liabilities, a $0.6 million increase in income tax payable due to additional tax expense, and a $0.4 million decrease in prepaid expenses and other current assets.

Net cash provided by operating activities for the year ended December 31, 2021 was $24.3 million. This is primarily due to our net loss for the period of $21.4 million adjusted by net non-cash charges of $0.6 million and a net change of $46.3 million in our net operating assets and liabilities. The non-cash charges primarily consisted of $2.8 million for the change in fair value of our investment in the Affini-T convertible note and $0.9 million for non-cash lease expense. The changes in our net operating assets and liabilities primarily consisted of a $44.2 million increase in deferred revenue primarily due to the receipt of an upfront payment under the Moderna Agreement, a $1.9 million increase in accrued expenses and other current liabilities and a $0.7 million increase in accounts payable, partially offset by a $0.5 million increase in prepaid expenses and other current assets.

Net cash provided by operating activities for the year ended December 31, 2022 was $29.7 million. This was primarily due to our net loss of $43.6 million, adjusted by net non-cash charges of $3.8 million and a net change of $69.5 million in our net operating assets and liabilities. The non-cash charges primarily consisted of $2.0 million of unit-based compensation expense, $1.7 million of depreciation expense and $1.3 million for non-cash lease expense, reduced by $1.1 million for the amortization of the discount on our investment in available-for-sale marketable securities. The changes in our net operating assets and liabilities primarily consisted of a $65.7 million increase in deferred revenue primarily due to the receipt of an upfront payment under the Ionis Agreement, a $4.5 million increase in accrued expenses and other current liabilities, a $1.5 million increase in income tax payable and a $1.0 million increase in other non-current liabilities, partially offset by an increase of $2.5 million in prepaid expenses and other current assets and an increase of $1.3 million in contract assets.

Cash Flows from Investing Activities

Net cash used in investing activities for the nine months ended September 30, 2022 was $83.3 million, which consisted of $136.6 million of purchases of available-for-sale marketable securities and $10.5 million of purchases of property and equipment, partially offset by $63.8 million in proceeds from maturities and sales of available-for-sale marketable securities.

Net cash used in investing activities for the nine months ended September 30, 2023 was $14.9 million, which consisted of $169.0 million of purchases of available-for-sale marketable securities and $8.1 million of purchases of property and equipment, partially offset by $162.2 million in proceeds from maturities and sales of available-for-sale marketable securities.

Net cash used in investing activities for the year ended December 31, 2021 was $74.3 million, which consisted of $69.3 million of purchases of available-for-sale marketable securities, $2.9 million of purchases of property and equipment and $2.2 million investment in preferred stock of ViTToria Biotherapeutics, Inc.

Net cash used in investing activities for the year ended December 31, 2022 was $122.2 million, which consisted of $214.9 million of purchases of available-for-sale marketable securities, $14.0 million of purchases of property and equipment, partially offset by $106.6 million in proceeds from maturities and sales of available-for-sale marketable securities.

Cash Flows from Financing Activities

Net cash provided by financing activities for the nine months ended September 30, 2022 was $144.3 million, which consisted of net cash proceeds received from the issuance of Series B redeemable convertible preferred units.

Net cash provided by financing activities for the nine months ended September 30, 2023 was $2.3 million, which consisted of $4.3 million of net cash proceeds from our issuance of Series B-1 redeemable convertible preferred units, partially offset by $1.9 million payments of initial public offering costs.

Net cash provided by financing activities for the year ended December 31, 2021 was $39.9 million, which consisted of $30.0 million net cash proceeds received from the issuance of a convertible note and $9.9 million net cash proceeds from our issuance of Series A-5 preferred units.

Net cash provided by financing activities for the year ended December 31, 2022 was $239.6 million, which consisted of net cash proceeds from our issuance of Series B and Series B-1 preferred units.

Contractual Obligations and Commitments

Leases

As of December 31, 2022, our future remaining operating lease payments were $3.3 million within the next twelve months and $23.9 million for the remainder of the leases' terms, with respect to leases already commenced as of such date. In addition, we entered into a lease in November 2022 with a lease commencement date in January 2023, for which we are obligated to make lease payments of $2.9 million in the next twelve months and $46.2 million through March 2031.

As of September 30, 2023, we leased our office and laboratory space under three lease agreements with a weighted-average remaining lease term of 7.4 years. Remaining lease obligations under our non-cancellable leases were $72.3 million as of September 30, 2023, including $1.6 million payable through December 31, 2023 and $70.7 million for the reminder of the leases' terms.

Refer to Note 10 in our audited consolidated financial statements and Note 8 in our unaudited condensed consolidated financial statements included elsewhere in this prospectus for more information on our lease obligations.

Recently Issued Accounting Pronouncements

A description of recently issued accounting pronouncements that may potentially impact our financial position, results of operations or cash flows is disclosed in Note 2 to our consolidated financial statements included elsewhere in this prospectus.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our financial statements, which have been prepared in accordance with generally accepted accounting principles ("GAAP"). The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported expenses incurred during the reporting periods.

On an ongoing basis, we evaluate our estimates and judgments, including but not limited to those related to revenue recognition under our collaboration agreements, accrued research and development costs, the fair value of common units and unit-based compensation expense, the valuation of deferred tax assets, and uncertain income tax positions. These estimates and assumptions are monitored and analyzed by us for changes in facts and circumstances, and material changes in these estimates and assumptions could occur in the future. Our estimates are based on our historical experience and on various other factors that we believe

are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Changes in estimates are reflected in reported results for the period in which they become known. Actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are described in more detail in Note 2 to our audited consolidated financial statements and unaudited condensed consolidated financial statements included elsewhere in this prospectus, we believe that the following accounting policies are those most critical to the judgments and estimates used in the preparation of our financial statements.

Collaboration Arrangements and Revenue Recognition

We apply judgment to determine whether a collaboration agreement is within the scope of revenue recognition, Accounting Standard Codification Topic 606, *Revenue from Contract with Customers*, or other accounting guidance at the effective date and throughout the term of the agreement. We perform the following five steps in determining the appropriate amount of revenue to be recognized as we fulfill our obligations under each of these agreements: 1) identification of the promised goods and services in the contract; 2) determination of whether the promised goods or services are performance obligations including whether they are distinct in the context of the contract; 3) measurement of the transaction price, including any constraint on variable consideration; 4) allocation of the transaction price to the performance obligations; and 5) recognition of revenue when, or as, we satisfy each performance obligation.

Promises in collaboration agreements may include (i) grants of licenses, (ii) performance of research and development services, and (iii) participation on joint research and/or development committees. They also may include options to obtain licenses to our intellectual property or to extend the term of the research activities. We assess whether each promise is a distinct performance obligation and should be accounted for separately or should be combined with other promises into one performance obligation. Judgment is required to determine whether the license to intellectual property is distinct from the research and development services or participation on steering committees. The event-based milestone payments, royalties and cost reimbursements represent variable consideration. We evaluate the probability that the event-based milestones will be achieved and estimates the amount to be included in the transaction price using the most likely amount method. We include cost reimbursement in the transaction price using the expected value method. Unlike other contingency payments, sales-based milestones and royalties are not included in the transaction price based on estimates at the inception of the contract, but rather, are included when sales or usage occur.

To estimate the transaction price, we include upfront payment and variable consideration, such as research and development milestones, reimbursement for our services, that is subject to a constraint. Amounts of variable consideration are included in the transaction price to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur and when the uncertainty associated with the variable consideration is subsequently resolved. These estimates are re-assessed each reporting period as required.

After we estimate the transaction price, we allocate it to the identified performance obligations based on the standalone selling price (“SSP”) of each distinct performance obligation. Judgment is required to determine the SSP. In instances where the SSP is not directly observable, such as when a license or service is not sold separately, the SSP is determined using information that may include market conditions and other observable inputs. When licenses are combined with other promises, we utilize our judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time. If we conclude over time, we recognize revenue based on the measure of progress

using an estimated cost-based input method each reporting period. In applying the cost-based input method, we measure actual costs incurred relative to budgeted costs to fulfill our performance obligation. These budgeted costs consist of our employee full-time equivalent hours plus allowable external (third-party) costs incurred. Management applies considerable judgment in estimating expected costs as such costs are key inputs when applying the cost-based input method. We recognize revenue based on actual costs incurred as a percentage of total budgeted costs as we complete a performance obligation applied to the transaction price. A significant change in the estimate of expected costs for the remainder of a contract term could have a material impact on revenue recognized, including the possible reversal of previously recognized revenue, at each reporting period, as well as a related impact on contract assets and liabilities.

Accrued Research and Development Expenses

Research and development expenses are recognized as services are performed and as costs occur. Research and development expense accruals are estimated based on the level of services performed, progress of the work orders, including the phase or completion of events, and contracted costs. We make significant judgments and estimates in determining the accrual balance at each reporting period. If the actual timing of the performance of services or the level of effort varies from the original estimates, we will adjust the accrual accordingly. To date, there have been no material differences between estimates of such expenses and the amounts actually incurred.

Nonrefundable advance payments for goods or services to be received in the future for use in research and development activities are capitalized and recorded in prepaid expenses and other current assets, and then expensed as the related goods are delivered or the services are performed.

Unit-Based Compensation Expense

Unit-based compensation expense related to the profits interests granted to employees, consultants and our board of managers members is measured at the grant date based on the fair value of the profits interests. Compensation expense for those awards is recognized over the requisite service period, which is generally the vesting period. We use the straight-line method to record the expense of awards with service-based vesting conditions. We account for forfeitures as they occur.

Prior to July 31, 2023, we used the Black-Scholes option-pricing model to determine the fair value of profits interests. The following summarizes the inputs used:

Common Unit Fair Value — See the subsection titled "—Determination of Fair Value of Common Units" below.

Expected Volatility — Expected volatility was estimated by studying the volatility of the prices of shares of common stock of comparable public companies for similar terms.

Expected Term — Expected term represents the period that our profits interests were expected to be outstanding and expected exit/liquidation term.

Risk-Free Interest Rate — The risk-free interest rate is based on the U.S. Treasury zero-coupon bonds issued in effect at the time of grant for periods corresponding with the expected term of the option.

Expected Dividend — The Black-Scholes valuation model calls for a single expected dividend yield as an input. To date, we have not declared or paid any dividends.

The grant date fair value of profits interests issued and modified beginning from July 31, 2023 was estimated using the valuation model based on the Probability Weighted Expected Return Method ("PWERM"), which is

further discussed in the section below "Determination of Fair Value of Common Units". The estimated equity fair value was allocated via the distribution waterfall in accordance with the Amendment to the LLC Agreement to all outstanding redeemable convertible preferred units, common units and profits interests.

We recorded unit-based compensation expense of $0.4 million and $2.0 million for the years ended December 31, 2021 and 2022, respectively. We recorded unit-based compensation expense of $1.4 million and $4.5 million for the nine months ended September 30, 2022 and 2023, respectively. As of September 30, 2023, there was $19.3 million of total unrecognized unit-based compensation expense, which we expect to recognize over a remaining weighted-average period of 2.9 years. We expect to continue to grant these awards in the future, and to the extent that we do, our unit-based compensation expense recognized in future periods will likely increase.

The intrinsic value of all outstanding profits interests as of September 30, 2023 was $ million based on the assumed initial public offering price of $ per share, which is the estimated midpoint of the price range set forth on the cover page of this prospectus, of which approximately $ million related to vested profits interests and approximately $ million related to unvested profits interests.

Profits Units Grants

The following table summarizes by grant date the number of profits interests granted from January 1, 2022, the per unit participating threshold amount and the estimated fair value of the common unit on each grant date:

Grant date	Number of profits interests granted	Threshold amount per unit	Estimated fair value per common unit
April 25, 2022	941,755	$ 3.20	$ 3.20
May 26, 2022	1,224,466	$ 3.20	$ 3.20
July 12, 2022	78,135	$ 3.20	$ 3.20
October 28, 2022	519,000	$ 3.20	$ 3.20
March 24, 2023*	462,460	$ 5.75	$ 6.93
June 25, 2023*	283,330	$ 7.40	$ 9.88
June 26, 2023*	1,247,193	$ 7.40	$ 9.92
September 4, 2023*	274,830	$ 11.84	$ 12.32

* The fair value per common unit for grants during the 2023 fiscal year was interpolated between the valuation reports' dates in connection with a retrospective fair value assessment for accounting purposes.

Determination of Fair Value of Common Units

As there has been no public market for our common units to date, the estimated fair value of our common units has been determined by our board of managers as of the date of each award grant with input from management, considering our most recently available third-party valuations of common unit, and our board of managers' assessment of additional objective and subjective factors that it believed were relevant and which may have changed from the date of the most recent valuation through the date of the grant. These third-party valuations were performed in accordance with the guidance outlined in the American Institute of Certified Public Accountants' Accounting and Valuation Guide, Valuation of Privately-Held-Company Equity Securities Issued as Compensation ('the Practice Aid").

For valuations performed prior to December 20, 2022, in accordance with the Practice Aid, we determined the option-pricing method ("OPM") was the most appropriate method for determining the fair value of our common unit based on our stage of development and other relevant factors, which used a market approach to estimate

our enterprise value. Within the OPM framework, the backsolve method for inferring the total equity value implied by a recent financing transaction involves the construction of an allocation model that takes into account our capital structure and the rights, preferences and privileges of each class of unit then assumes reasonable inputs for the other OPM variables (expected time to liquidity, volatility and risk-free rate). The total equity value is then iterated in the model until the model output value for the equity class sold in a recent financing round equals the price paid in that round. The OPM is generally utilized when specific future liquidity events are difficult to forecast (i.e., the enterprise has many choices and options available), and the enterprise's value depends on how well it follows an uncharted path through the various possible opportunities and challenges. In determining the estimated fair value of the common stock, our board of managers also considered the fact that the stockholders could not freely trade the common stock in the public markets. Accordingly, we applied discounts to reflect the lack of marketability of its common stock based on the weighted-average expected time to liquidity. The estimated fair value of the common stock at each grant date reflected a non-marketability discount partially based on the anticipated likelihood and timing of a future liquidity event.

For valuations performed after December 20, 2022, in accordance with the Practice Aid, we determined the hybrid method was the most appropriate method for determining the fair value of our common unit based on our stage of development and other relevant factors. The hybrid method is a PWERM, where the equity value in one or more scenarios is calculated using an OPM. The PWERM is a scenario-based methodology that estimates the fair value of common unit based upon an analysis of future values for the company, assuming various outcomes. The common unit value is based on the probability-weighted present value of expected future investment returns considering each of the possible outcomes available as well as the rights of each class of members' units. The future value of the common unit under each outcome is discounted back to the valuation date at an appropriate risk-adjusted discount rate and probability weighted to arrive at an indication of value for the common unit. A discount for lack of marketability of the common unit is then applied to arrive at an indication of value for the common unit. In addition to considering the results of independent third-party valuations, our board of managers considered various objective and subjective factors to determine the thresholds for the profits interests as of each grant date, including:

- the prices at which we sold shares of redeemable convertible preferred units and the superior rights and preferences of the redeemable convertible preferred units relative to our common units at the time of each grant;
- the progress of our research and development programs;
- milestones achieved by us;
- the state of the industry and the economy;
- our stage of development and commercialization and our business strategy;
- external market conditions affecting the biopharmaceutical industry and trends within the biopharmaceutical industry;
- our financial position, including cash on hand, and our historical and forecasted performance and operating results;
- the lack of an active public market for our common stock and our preferred stock;
- the likelihood of achieving a liquidity event, such as an initial public offering ("IPO"), or our sale in light of prevailing market conditions; and
- the analysis of IPOs and the market performance of similar companies in the biopharmaceutical industry.

The assumptions underlying these valuations are highly complex and subjective and represent management's best estimates, which involved inherent uncertainties and the application of management's judgment. As a result, if we had used significantly different assumptions or estimates, the fair value of our common unit and our unit-based compensation expense could be materially different.

Once a public trading market for our common stock has been established in connection with the completion of this offering, it will no longer be necessary for our board of managers to estimate the fair value of our common unit in connection with our accounting for granted profits interests and other such awards we may grant, as the fair value of our common unit or stock will be determined based on the quoted market price of our common unit or stock.

Income Taxes

We are taxed under the provisions of Subchapter K—Partners and Partnerships of the Internal Revenue Code. Under those provisions, we do not pay federal or state corporate income taxes on our taxable income. Instead, each member includes net operating income or loss for us on its individual tax return.

Metagenomi, Inc., our wholly-owned subsidiary, accounts for income taxes using the asset and liability method. We recognize deferred tax assets and liabilities for the expected future tax consequences of events that have been included in our audited consolidated financial statements and unaudited condensed consolidated financial statements or tax returns. Deferred tax assets and liabilities are determined based on the difference between the accounting and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. A valuation allowance is established for deferred tax assets for which it is more likely than not that some portion or all of the deferred tax assets will not be realized. We assess the need for a valuation allowance against our deferred tax assets based on all available evidence, including scheduled reversals of deferred tax liabilities, projected future taxable income, tax planning strategies, results of recent operations, and our historical earnings experience by taxing jurisdiction. Significant judgment is required in making this assessment.

Tax benefits related to uncertain tax positions are recognized when it is more likely than not that a tax position will be sustained during an audit. Uncertain tax positions are recorded based upon certain recognition and measurement criteria. Significant judgment is required in making this assessment, and, therefore, we re-evaluate uncertain tax positions and consider various factors, including, but not limited to, changes in tax law, the measurement of tax positions taken or expected to be taken in tax returns, and changes in facts or circumstances related to a tax position. We adjust the amount of the liability to reflect any subsequent changes in the relevant facts and circumstances surrounding the uncertain tax positions.

Off-Balance Sheet Arrangements

During the periods presented we did not have, nor do we currently have, any off-balance sheet arrangements as defined in the rules and regulations of the SEC.

Quantitative and Qualitative Disclosures About Market Risks

Interest Rate Risk

The primary objectives of our investment activities are to ensure liquidity and to preserve capital. We are exposed to market risks related to changes in interest rates of our cash equivalents and available-for-sale marketable securities. However, due to the nature of these cash equivalents and available-for-sale marketable securities, we do not believe that a hypothetical 10% increase or decrease in interest rates during any of the

periods presented would have had a material effect on our audited consolidated financial statements and unaudited condensed consolidated financial statements included elsewhere in this prospectus.

Effects of Inflation

Inflation generally affects us by increasing our cost of labor and research and development costs. We do not believe that inflation had a material effect on our business, results of operations, or financial condition, or on our audited consolidated financial statements and unaudited condensed consolidated financial statements included elsewhere in this prospectus.

Emerging Growth Company Status

We qualify as an "emerging growth company," as defined in the JOBS Act. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include: (i) being permitted to present only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure in this prospectus; (ii) reduced disclosure about our executive compensation arrangements; (iii) not being required to hold advisory votes on executive compensation or to obtain stockholder approval of any golden parachute arrangements not previously approved; (iv) an exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002; and (v) an exemption from compliance with the requirements of the Public Company Accounting Oversight Board regarding the communication of critical audit matters in the auditor's report on the financial statements.

We may take advantage of these exemptions for up to five years or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of $1.235 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of this offering; (iii) the date on which we have issued more than $1.0 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC. We may choose to take advantage of some but not all of these exemptions. We have taken advantage of reduced reporting requirements in this prospectus. Accordingly, the information contained herein may be different from the information you receive from other public companies in which you hold stock. Additionally, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to avail ourselves of this exemption and, therefore, while we are an emerging growth company we will not be subject to new or revised accounting standards at the same time that they become applicable to other public companies that are not emerging growth companies. As a result of this election, our audited consolidated financial statements and unaudited condensed consolidated financial statements may not be comparable to those of other public companies that comply with new or revised accounting pronouncements as of public company effective dates. We may choose to early adopt any new or revised accounting standards whenever such early adoption is permitted for private companies.

BUSINESS

Overview

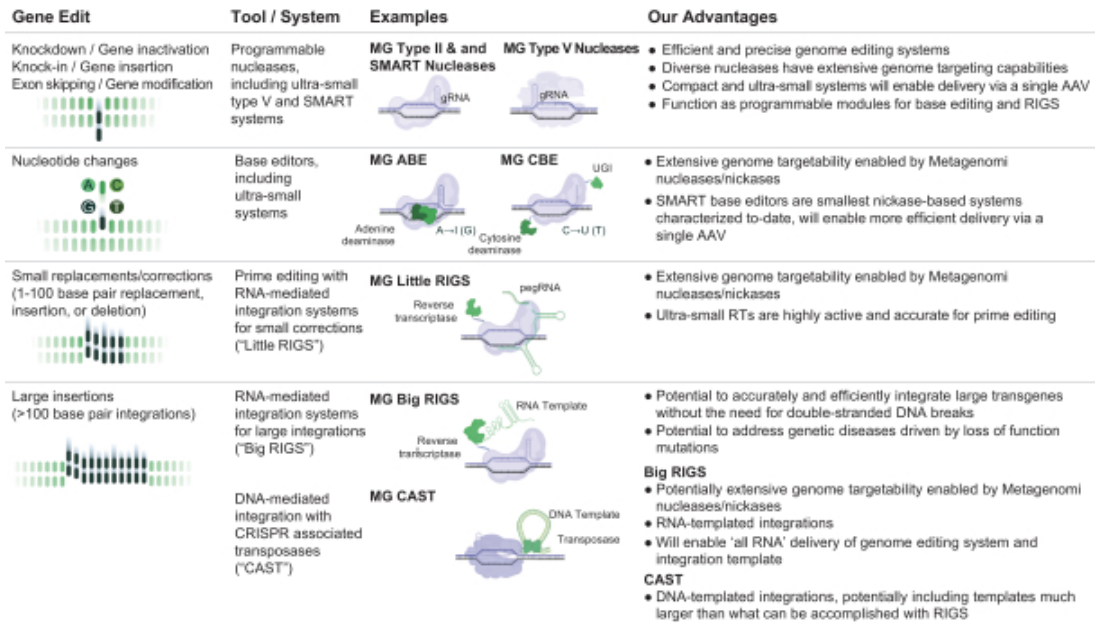
We are a precision genetic medicines company committed to developing curative therapeutics for patients using our proprietary, comprehensive metagenomics-derived genome editing toolbox. Genetic diseases are caused by a diverse set of mutations that have been largely inaccessible by genome engineering approaches to date. Genetic mutations are seen in a variety of forms, including deletions, insertions, single-base-pair changes and sequence repeats, and are found throughout the genome and across a variety of different cell types, tissues, and organ systems. Additionally, many diseases lack a genetic origin but have the potential to be effectively and permanently addressed through genome editing. We are harnessing the power of metagenomics, the study of genetic material recovered from the natural environment, to unlock four billion years of microbial evolution to discover and develop a suite of novel editing tools capable of correcting any type of genetic mutation found anywhere in the genome. Our comprehensive genome editing toolbox includes programmable nucleases, base editors, and RNA and DNA-mediated integration systems (including prime editing systems and clustered regularly interspaced short palindromic repeat ("CRISPR")-associated transposases ("CASTs")). We believe our diverse and modular toolbox positions us to access the entire genome and select the optimal tool to unlock the full potential of genome editing for patients.

The company was founded by pioneers in the field of metagenomics, a powerful science that allows us to tap into the diversity of microbial life on this planet. The metagenomics process starts by collecting samples from microbe-rich ecosystems ranging from simple home gardens to extreme locations such as hydrothermal vents below the ocean. We then extract the DNA from these environmental samples and deeply sequence them to fully reconstruct the genomes of the resident microbes. Each sample may include thousands of distinct genomes from previously unknown organisms revealing novel cellular machinery that we utilize as building blocks for our editing systems. Using high-throughput screening, artificial intelligence ("AI"), and proprietary algorithms, we rapidly mine through billions of novel proteins from our genome-resolved metagenomics database to create genome editing tools. To date, we have analyzed over 460 trillion base pairs of DNA sequencing data, predicted over 7.4 billion proteins, including over 322 million CRISPR-associated ("Cas") proteins, and identified over 1.75 million CRISPRs, which we estimate has resulted in the identification of over 20,000 novel genome editing systems. Simultaneously, we have assembled extensive libraries of millions of nucleases, deaminases, reverse transcriptases ("RTs") and over one thousand CASTs. Our platform enables us to rapidly and effectively find, screen, and select tools with the highest targetability, specificity, and efficiency in order to develop them into genetic medicines. The iterative nature of our process, underpinned by AI, allows us to continuously push the boundaries of innovation.

Our proprietary toolbox of editing systems

We have developed an expansive and modular toolbox of next-generation genome editing systems that will allow us to interact with the human genome in a site-specific manner, where each tool can be matched to specific disease targets. Figure 1 summarizes our diverse and versatile toolbox of different editing capabilities with the potential to address the full spectrum of genetic diseases.

Figure 1. Our Toolbox.



Our programmable nucleases are the backbone of our broad set of genome editing tools. These novel nucleases including type II and type V Cas nucleases, of which some are ultra-small systems that we call SMall Arginine-Rich sysTems ("SMART") nucleases, have unique targeting abilities and can be programmed by guide RNAs ("gRNAs") to target and cut at specific locations in any genome sequence. Targeted genomic breaks trigger DNA repair pathways that can be used for genome editing, for example, to integrate a gene at a target site (knock-in) or for gene inactivation (knockdown).
Our toolbox contains thousands of CRISPR nucleases with diverse abilities to target different parts of the genome, allowing us to potentially select the ideal nuclease for targeting any given gene in a site-specific manner and overcome a major limitation of first-generation CRISPR/Cas9 systems.

We also modify our nucleases to either nick the genome (i.e., a nickase that cuts one strand of the DNA) or to simply bind to target sites (i.e., a nuclease dead variant). These capabilities (searching, cutting, nicking, and binding) can be leveraged as a chassis by adding on additional effector enzymes to create base editors for single nucleotide changes, RNA-mediated integration systems ("RIGS") for both small and large genomic integrations using "Little RIGS" for prime editing and "Big RIGS" for large integrations. Using modular engineering, we match nickases with deaminases and RTs for base editing and RIGS, respectively. Furthermore, nucleases can be engineered by swapping the search modules of the enzyme to expand the targetability of the chassis, which is critical for site-specific genomic modifications. Given the measured targeting density of our toolbox, we believe that essentially any codon in the human genome could be addressed with our gene editing systems.

Our highly active nucleases have gone through extensive preclinical evaluation for both *in vivo* and *ex vivo* applications, with demonstration of broad potency of these systems across human primary cells, mouse, and nonhuman primate ("NHP") models. Our base editors, RIGS, and CAST systems have demonstrated activity across various cell-based models. In addition to evaluating system activity, we have undertaken detailed characterization of guide-specific on-and off-target effects. We routinely identify guides that have no or minimal verifiable off-target editing, thus overcoming another limitation of first-generation CRISPR/Cas9 systems.

In addition to overcoming the activity, targetability, and specificity limitations of first-generation systems, our nuclease toolbox was designed to have broad compatibility with viral and nonviral delivery technologies. This compatibility is accomplished by having a variety of nuclease and gRNA structures, which range in terms of their size and biochemistry. For example, small guides for some type V Cas systems streamline manufacturing for delivery by lipid nanoparticle ("LNP") approaches, and SMART nickases can be used to construct base editors that are small enough to fit within the packaging limitations of adeno-associated viruses ("AAV"). SpCas9, which is currently used in most base editing applications, is roughly three times the size of some of the smallest SMART nickases and cannot be efficiently packaged into a single AAV. Combined, we believe these features will facilitate delivery of our genome editing tools to previously inaccessible tissue types and organ systems.

While nucleases, base editors, and prime editors can precisely address a wide variety of genomic modifications required to treat disease, the fact that many diseases are caused by a multitude of mutations across a gene means that a diverse set of editing tools are required to fully address these patient populations. The integration of a complete and functional gene through targeted genome editing may provide a way in which every patient with a given disease could potentially be treated by a single genetic medicine. Big RIGS and CASTs are novel genome editing systems that are under development to achieve what has been a major challenge for the genome editing field — large, targeted genomic integrations. Initial preclinical readouts conducted in mammalian cells indicate that these systems could potentially have a major impact on how diseases caused by loss-of-function mutations, the most common cause of genetic diseases, can be addressed through genome editing.

Therapeutic translation roadmap and initial programs

We are taking a stepwise approach deploying our genome editing toolbox to develop potentially curative therapies for patients. Our lead programs are selected to both address important diseases and to establish new standards in targetability, precision, efficiency, and scope of editing capabilities. Figure 2 summarizes the portfolio of programs that we and our partners are advancing, as we aim to match the optimal genome editing tools for each indication. Each of these indications were chosen based on our conviction in the underlying biology, existence of validating preclinical and clinical data, availability of pharmacodynamic and translational tools to assess early proof-of-concept, relevant value supporting outcome measures, and ongoing clinical unmet need. While we do not currently have any approved products and all of our product candidates are preclinical, our lead programs capture an ever-growing set of translational learnings and insights that will inform and accelerate future programs.

Figure 2. Therapeutic Translation.

Hemophilia A—novel, durable , knock-in approach for expression of Factor VIII

Hemophilia A is the most common X-linked inherited bleeding disorder and is caused by mutations in the Factor VIII ("FVIII") gene leading to loss of functional FVIII protein that impacts the body's ability to form normal clots in response to injury. FVIII is normally produced in the liver within sinusoidal endothelial cells and is then secreted into the bloodstream where it acts as a cofactor for the catalytic activation of Factor X in the clotting pathway. The lack of functional FVIII disrupts the normal clotting cascade and predisposes patients to increased risk of bleeding, either spontaneously or in response to injury or surgery. Repeated bleeding episodes in joints or soft tissues can lead to progressive joint damage, inflammation, pain, and mobility impairment. Intracranial bleeding is of greatest concern as this can be rapidly fatal or lead to major morbidity.

The standard of care for patients with severe hemophilia A, involves lifelong repeated intravenous ("IV") infusions of recombinant FVIII preparations prophylactically and in response to bleeding events. The major limitation of this approach is fluctuating FVIII activity levels, with trough values that can still result in breakthrough microscopic and macroscopic bleeding events, particularly within sensitive and previously damaged joints. Additionally, frequent FVIII infusions are inconvenient, which can be associated with suboptimal compliance, and in some patients result in inhibitor formation (antibodies against FVIII) that compromise efficacy. More recently, emicizumab, a bispecific antibody, has been approved for hemophilia A in the United States. Valoctocogene roxaparvovec, the first hemophilia A gene therapy, was conditionally approved for use in Europe in August 2022 and was approved in the United States in June 2023. This genetic medicine delivers a FVIII gene construct to the liver using an AAV vector; however, longitudinal clinical data has demonstrated that FVIII levels drop over time. Importantly, AAV gene therapy is also not a feasible treatment approach for infants or children due to the high degree of liver growth during pre-adulthood that would dilute out the episomal FVIII levels during progressive rounds of liver cell division.

Rather than provide the FVIII gene in an episomal location, which risks dilution from cell division or cell death as well as episomal transcriptional silencing, our approach is to insert a FVIII DNA cassette into a "safe harbor location," within an intron of the albumin gene that is not expected to have deleterious effects. FVIII expression is then driven off the strength of the native albumin promoter. This approach has previously been demonstrated in preclinical studies to lead to therapeutically relevant expression of a different clotting factor (Factor IX) with negligible impact to systemic circulating albumin levels. Our FVIII knock-in approach is

designed to provide stable expression and clinically relevant circulating levels of FVIII, even at low integration rates because of the strength of the albumin promoter.

We have demonstrated the feasibility of the FVIII gene knock-in approach in mice with several mouse specific guides and different FVIII DNA donor cassettes, with integration of the FVIII gene leading to FVIII mRNA expression and therapeutically relevant levels of FVIII protein in the blood. In an ongoing NHP study we demonstrated integration of a surrogate cynomolgus-FVIII cassette (used to avoid immune response that would occur with a foreign human FVIII protein) and observed therapeutically relevant levels of the cyno-FVIII protein encoded by the integrated cassette in all 3 treated animals that has extended for 4.5 months following a single dose of the AAV-cFVIII virus followed five weeks later by a liver trophic LNP encapsulating the mRNA encoding MG29-1 and guide 2 at a dose of 1mg/kg body weight. We intend to continue measuring FVIII levels in these monkeys up to the 12 month time point to generate a robust data set on durability.

Evaluation of different human FVIII donor DNA cassettes has been completed in mice resulting in the selection of 2 lead cassettes that will be compared in another NHP study, potentially leading to a development candidate selection anticipated in Q2 2024.

In parallel, we are manufacturing mRNA, gRNA, AAV and LNP to support future investigational new drug (“IND”) enabling studies.

Primary Hyperoxaluria, Type 1 (“PH1”)—a durable knockdown of HAO1 for substrate reduction therapy

PH1 is a rare autosomal recessive metabolic disease arising from loss of function mutations in the alanine-glyoxylate aminotransferase (“AGXT”) gene that encodes alanine glyoxylate aminotransferase. This enzyme is found in peroxisomes of the liver where it catalyzes the conversion of glyoxylate to glycine and pyruvate. Lack of functional AGXT leads to an accumulation of glyoxylate substrate, which is then converted to oxalate and excreted in the kidney. The excess urinary oxalate forms an insoluble complex with urinary calcium that leads to the production of calcium oxalate crystal precipitates. This pathologic process results in the formation of repeated calcium oxalate urolithiasis and nephrolithiasis, which in turn leads to obstructive uropathy, inflammation, fibrosis, tubular toxicity, and progressive loss of kidney function. PH1 is a serious disease that causes kidney failure. More than 70% of individuals with PH1 mutations will develop end-stage renal disease, with a median age in young adulthood.

Until recently, the standard of care for treating PH1 was primarily supportive in nature, with hydration and diuretics used to reduce urinary oxalate concentration, pyridoxine (vitamin B6) to enhance residual function of alanine glyoxylate aminotransferase catalytic activity, and hemodialysis once renal function progressed to end stage. More recently, the standard of care has been updated to include treatment with lumasiran, a small interfering RNA (“siRNA”) therapeutic approved in adults and children with PH1 that acts to reduce the levels of urinary oxalate. Using a therapeutic approach known as substrate reduction therapy, lumasiran targets mRNA from a separate gene, HAO1, that encodes glycolate oxidase (“GO”). Lumasiran has been generally well tolerated in clinical studies of adults and children with PH1 but as a siRNA therapy, it requires repeat subcutaneous administration indefinitely in order to maintain its effect. An additional RNAi drug, Nedosiran, which targets LDH, a different enzyme in the same pathway as HAO1, was also given FDA approval for adults and children with PH1 in October 2023.

The goal of our genome editing approach is to durably knock down HAO1 resulting in stable and permanent reduction of oxalate levels to effect a lifelong benefit. We have performed nuclease and guide screening to select an optimal nuclease and gRNA combination. Along with our partner ModernaTX, Inc. (“Moderna”) we have achieved preclinical proof-of-concept in an AGXT knock-out mouse which is an accepted disease model of PH1. We are in the final stages of confirming the candidate to take into NHP studies and expect to have NHP data in 2024 to support final development candidate selection.

Transthyretin Amyloidosis—a single treatment to knockdown TTR gene expression

Transthyretin amyloidosis is a disease of misfolded and aggregated transthyretin ("TTR") protein that can deposit in tissues causing organ dysfunction, primarily in the heart and/or peripheral nerves. The TTR protein is normally produced in the liver and circulates in a homotetramer (four copies of the same TTR protein bound together) where it serves as a carrier protein for vitamin A and thyroxine. Certain mutations have been identified that can cause TTR homotetramers to fall apart, misfold, and aggregate into insoluble fibrils that deposit in cardiac tissue and peripheral nerves. However, more commonly, the normal aging process is associated with an increased propensity for TTR misfolding and aggregation in the heart without any known genetic sequence variation. These distinctions lead to TTR amyloidosis being characterized as either hereditary transthyretin amyloidosis ("ATTRv") caused by mutations in TTR, or wild-type ATTR amyloidosis ("ATTRwt"). It is estimated that globally there are approximately 50,000 patients with ATTRv and between 300,000 and 500,000 patients with ATTRwt. Among the larger ATTRwt patient population, the most common presentation is a rapidly progressive, restrictive, and hypertrophic cardiomyopathy due to progressive deposition of insoluble TTR fibrils, which result in thickening of the myocardium and stiffening of the ventricles. These pathologic processes lead to impaired diastolic function and progressive cardiomyopathy that typically leads to progressive heart failure and often death within three to five years from disease onset. Although cardiac manifestations are more common and severe, patients with neurologic manifestations also experience significant morbidity, loss of functionality, and impaired quality of life.

Using our novel nucleases, we aim to provide efficient TTR knockdown and halt further deposition of amyloid fibrils. Previous experience suggests a clinical correlation between the degree of TTR knockdown and potential for benefit in familial forms of the disease, which are expected to translate similarly to wild type forms. The high degree of *in vivo* editing efficiency and specificity of our nuclease platform suggest the potential for a single treatment to knockdown TTR gene expression and remove the requirement for life-long therapy. Along with our partner Ionis Pharmaceuticals, Inc. ("Ionis"), we are currently in advanced stages of nuclease and guide selection, having achieved more than 90% knockdown of human TTR protein in a humanized TTR mouse model, and expect to move into NHP studies in 2024.

Further areas of therapeutic activity and interest

In parallel with our translation efforts in our lead programs using our novel programmable nucleases to knock-in or knockdown gene expression in liver-associated targets, we are developing more complex editing systems for liver associated targets as well as moving beyond the liver. Given that our genome editing toolbox contains small editing systems designed to be amenable to viral vector delivery, and given the progress established in targeting the central nervous system and muscle with established AAV capsids, our first extrahepatic indications will be neurodegenerative and neuromuscular diseases.

Building on our experience delivering our nucleases to the liver via LNP systems, we are extending that experience delivering novel RIGS to the liver to potentially correct ATP7B mutations in Wilson's disease and PiZ mutations in alpha-1-antitrypsin deficiency ("A1AT deficiency"). We are also exploring addressing A1AT deficiency via a base editor approach given the predominant mutation involves a single base pair. Both of these liver diseases have well-defined biology, readily available translational biomarkers for early proof-of-concept, established development pathways based on prior drug approvals, and important unmet medical needs.

Building on our experience with our novel type II and type V programmable nucleases, we are extending that experience by working to deliver these nucleases via AAV to the central nervous system to potentially knock down genetic targets important for both spontaneous and familial amyotrophic lateral sclerosis (SOD1, ATXN2) and Charcot-Marie-Tooth Type 1a (PMP22). In addition, we are working to address a series of mutations

common in Duchenne Muscular Dystrophy with our programmable nucleases through exon skipping approaches. In diseases outside of the liver, we intend to initially leverage known biology and clinical validation achieved with RNA-targeted approaches like antisense and siRNA to advance more potent and definitive one-time genome editing treatments.

Building on our experience with both knock-in gene expression and smaller gene corrections with RIGS, we are progressing our larger RNA- and DNA-mediated integration systems to potentially provide a single curative approach to cystic fibrosis. As opposed to currently-available therapies limited to subsets of patients with individual mutations, we intend to deliver a full copy of a functional cystic fibrosis transmembrane conductance regulator ("CFTR") gene. This approach can similarly be pursued across many other diseases characterized by loss of function mutations.

Our Team

We have assembled a world-class team that is driven by a passion to create potentially curative genetic medicines through the discovery of novel genome editing technologies by harnessing the power of metagenomics. Key members of our executive and leadership team include:

- **Brian C. Thomas, Ph.D., Chief Executive Officer and Founder**, prior to co-founding the company, Dr. Thomas spent more than 20 years in academic research at UC Berkeley helping to pioneer the field of metagenomics. Dr. Thomas has been cited over 16,000 times and listed as an inventor in 28 patent families.
- **Jian Irish, Ph.D., MBA, President and Chief Operating Officer**, has held biopharma executive leadership roles for nearly 20 years at Kite Pharma / Gilead, Sanofi, and Amgen in drug development and global operations, and has helped launch several breakthrough medicines.
- **Pamela Wapnick, MBA, Chief Financial Officer**, has over 20 years of diversified financial leadership experience spanning strategic and operational finance roles at public and private companies including life sciences and biotechnology companies, Diality Inc, Capsida Biotherapeutics, True North Therapeutics and Amgen.
- **Sarah Noonberg, M.D., Ph.D., Chief Medical Officer**, has spent more than 20 years in translational and clinical development leadership roles with a track record of advancing therapeutic programs from discovery to commercialization, including at Medivation and BioMarin.
- **Simon Harnest, Chief Investment Officer and SVP of Strategy**, has held leadership roles in corporate finance and strategy in the life sciences sector, having raised over $1 billion in public and private capital, including leading Cellectis' U.S. IPO and subsequent spin-out and IPO of Calyxt.
- **Luis G. Borges, Ph.D., Chief Scientific Officer**, has over 27 years of experience in the biotechnology industry, including Amgen, Five Prime Therapeutics, Cell Medica, and Century Therapeutics, where he held leadership roles in the research and development of multiple therapeutic candidates.
- **Simren Delaney, Ph.D., LLM, VP of Legal,** is specialized in Intellectual Property and Patent law, having previously worked at Wilson Sonsini Goodrich & Rosati, and plays an instrumental role in driving the development of the company's growing IP portfolio.
- **Christopher T. Brown, Ph.D., VP of Discovery,** is a former scientist at the Jillian F. Banfield laboratory at UC Berkeley and an expert in using metagenomics to discover novel microbial systems for use in genome editing. Dr. Brown's research has resulted in over 35 publications and over 20 patent family filings.

- **Michael Conway, MBA, CPA, VP of Finance,** has spent nearly 20 years in finance leadership positions at life science and technology companies, including Adamas Pharmaceuticals, InterMune, and Intel.
- **Alan Brooks, Ph.D., SVP of Preclinical**, has worked on genetic medicines providing scientific leadership in translational research for more than 25 years, including at Casebia Therapeutics and Bayer Healthcare. Dr. Brooks' research has led to 20 publications and numerous patent filings.

Our company is supported by our board of directors, Scientific Advisory Board, and a leading syndicate of investors, with more than 30 funds supporting our Series B preferred unit and Series B-1 preferred unit financings (collectively, the "Series B preferred unit financing").

Our Strategy

Our goal is to harness the power of our proprietary metagenomics platform to create curative genetic medicines for patients. Key components of our strategy to achieve this goal include:

- **Leverage our leadership position in metagenomics to continually advance and expand innovative genome editing tools.** We expect to build on the diversity and versatility of our toolbox through continuous interrogation of novel microbial genomic information, identification of highly active natural enzymes, design and optimization of genome editing systems, and continuous integration of learnings to accelerate development. In connection with these discoveries, we will continue to strenuously file and protect our intellectual property. Coupled with our trade secret protection around our discovery platform, our broad intellectual property estate creates a significant barrier to entry.
- **Develop and deliver products that make precise modifications to the human genome to cure disease.** We focus on disease areas with well understood disease biology, readily available translational biomarkers for early proof-of-concept, clear development pathways, and important unmet medical need. We are taking a stepwise approach deploying our genome editing toolbox to develop potentially curative therapies for patients. Along with our development efforts using our novel programmable nucleases to knock-in or knockdown gene expression in liver-associated targets, we are leveraging our toolbox to deliver more complex editing systems to targets in and outside the liver. Our approach allows us to systematically incorporate knowledge and insights from our initial development programs, thereby accelerating therapeutic translation across our genome editing technologies.
- **Build a fully integrated genome editing company.** Our team includes experts in discovery, preclinical and clinical development, encompassing all major functions necessary to take a molecule from target identification through registrational clinical trials. To rapidly translate editing technologies into genetic medicines, we strategically invest in automation, characterization, and manufacturing capabilities. This applies not only to process development and manufacturing for clinical trial materials, but also high throughput automated screening and genome sequencing, and state-of-the-art characterization assays. We believe our ability to develop and characterize complex human genome editing components is essential to pursue a successful regulatory pathway for genetic medicine development.
- **Expand therapeutic impact to patients through continued investment in business development and enabling partnerships.** We carefully consider opportunities for business development such as collaborations and partnerships with industry leaders that have unique strengths and we may pursue additional partnership opportunities which complement our technologies, with the objective of accelerating our programs and pushing forward our therapeutic translation efforts. Our existing partnerships with Moderna, Ionis, and Affini-T Therapeutics, Inc. ("Affini-T") demonstrate our thoughtful approach to collaborating with industry pioneers to accelerate and optimize the development of our genetic therapeutic candidates.

- **Maintain our entrepreneurial outlook, scientifically rigorous approach, and culture of tireless commitment to patients.** We are a team of experienced drug discoverers, developers, and company builders who are united by our mission and passion to unlock the full potential of genome editing for patients with high unmet needs. We are dedicated to attracting and retaining top talent and partnerships at the intersection of academia and industry. We are unwavering in our commitment to deliver cutting-edge technology and unlock the long-awaited, transformative potential of genome editing.

Introduction to Genome Editing and Limitations with Current Approaches

Genome editing is a new treatment modality that has the potential to revolutionize healthcare by creating permanent, one-time treatments that address disease at the genomic level. Genome editing involves the alteration of genetic material of a living organism by inserting, replacing, converting, or deleting nucleotides within the DNA. Several approaches and technologies are being studied and developed in order to perform these edits, including:

Nuclease-based genome editing: Several genome editing methods rely on a class of enzymes called nucleases to create double-stranded breaks in DNA at a targeted location to cause gene inactivation, gene insertion, or alter gene splicing. Examples of nucleases include CRISPR associated nucleases, zinc finger nucleases ("ZFNs"), engineered meganucleases, and transcription-activator like effector nucleases ("TALENs"). The discovery and characterization of a particular nuclease, Cas protein 9 from *Streptococcus pyogenes* ("SpCas9"), has been leveraged to develop a number of different therapeutic approaches. Importantly, additional novel and distinct Cas nucleases exist in nature and have the potential to be developed into tools for genome editing. When introduced at target sites in a genome sequence, genomic breaks trigger DNA repair pathways that can be used for genome editing. If a DNA template is provided, the DNA repair machinery may incorporate the sequence at the site of the genomic break, resulting in a site-specific knock-in. If not, the cut will lead to the disruption of a gene sequence and subsequent knock-down of the encoded protein.

Base editing: Base editing is a genome editing approach that relies on using deaminases to chemically convert specific nucleotides in a genome. Deaminases are enzymes that catalyze chemical reactions to remove an amino group. Multiple programmable nuclease platforms, such as CRISPR nucleases, have been harnessed for base editing by using the programmable nature of these enzymes to direct deaminases to specific genomic target sites. In these cases, the nuclease activity is deactivated, thus creating a nicking or nuclease-dead version that does not disrupt the ability of the enzyme to be programmed to target specific genomic sites for editing. There are two primary types of base editors: adenine base editors ("ABEs") and cytosine base editors ("CBEs"). ABEs convert adenine-thymine base pairs to guanine-cytosine base pairs. CBEs target cytosine-guanine and convert them to thymine-adenine.

RNA-mediated integration, including prime editing: RNA-mediated integration systems ("RIGS") are genome editing systems that make programmable genomic modifications that are encoded in RNA templates. Because the modifications are encoded in RNA, these systems have the ability to repair diverse mutations, including insertions, deletions, and all types of point mutations. These systems rely on RTs to convert messages encoded as RNA into DNA. CRISPR systems are used to direct RTs to genomic target sites. Some systems use a nickase to create a target-specific site that primes the activity of the RT and results in the corrected genomic sequence encoded in the RNA to be incorporated into the genome. Prime editing can be accomplished with RIGS, as can large, targeted genomic integrations.

DNA-mediated integration, including CAST: CASTs are a class of genome editing systems that provide directed and programmable genomic integration of large DNA templates. CASTs are naturally occurring systems that have been engineered to accomplish large integrations for genome editing in various cell

types and for therapeutic applications. The systems consist of a catalytically dead Cas effector that can be programmed by gRNAs to target a transposase to integrate large DNA cargos into specific genomic target sites. DNA-templated integrations can be accomplished with other transposase and recombinase systems; however, these systems typically require extensive protein engineering in order to alter their targetability, or need to be used in concert with other genome editing tools such as prime editing systems in order to incorporate targeting motifs into specific genomic sites.

There have been significant advancements in genome editing since the seminal research that led to the discovery of CRISPR SpCas9 and its application in humans. However, there remain key limitations that must be addressed to unlock the full potential of genome editing. We believe the key limitations facing current genome editing platforms are:

1) ***First-generation technology lacks the ability and flexibility for accomplishing complex genome editing.*** The majority of genome editing platforms are limited to a single genome editing approach, such as gene insertions/deletions, single nucleotide changes, or small gene corrections. As a result, they are faced with inherent limitations including the diversity of edits in which they can employ and, as a result, an inability to address a range of diseases. In addition, they lack the flexibility to tailor their genome editing system to a broad range of genomic targets of interest.

2) ***Lack specificity and control over resulting edits.*** Current genome editing platforms have a narrow armamentarium of genome editing systems and therefore limited access to systems capable of high activity and specificity at desired target sites. This lack of control and specificity is often measured by “off-target” edits which can pose a risk for undesirable side effects or unexpected safety findings.

3) ***Size of current genome editing technologies limits* in vivo *delivery methods and target organs.*** First-generation SpCas9 systems are about 1,300 amino acids (“aa”) in length and as such are not feasible to package into many delivery vectors such as AAV. As such, their delivery is largely limited to LNP systems, which precludes delivery to many tissues outside of the liver.

4) ***Inability to access certain sequences in the genome.*** SpCas9 is only able to target DNA sequences which contain a flanking sequence of “NGG”, restricting the range in genetic targets it can be programmed to locate, and subsequently limiting the ability to address certain underlying mutations that drive disease.

5) ***Substantial engineering requirements.*** Limited access to highly active natural nucleases and effectors drives the need for substantial modifications to make a system operate at therapeutically-relevant levels, resulting in long lead times from discovery to candidate nomination.

6) ***Narrow terms of license agreement from academic institutions.*** The majority of genome editing platforms have been formed as a result of a licensing agreement for specific genome editing systems or technology from academic institutions and are therefore limited to the confines of that technology arrangement. Alternatively, genome editing tools developed by us are built from highly novel components derived from our metagenomics database, and thus are not subject to these constraints.

In order to address these broad challenges with current genome editing approaches, we have leveraged our deep expertise with metagenomics to develop a proprietary discovery platform that is designed to continuously identify novel editing systems and optimize our expansive editing toolbox. Starting at the microbial level, our multifaceted platform enables discovery beyond nucleases, translating highly active natural enzymes into powerful genome editing systems optimized for efficiency and specificity.

Our Metagenomics Platform

We believe genome editing tools with capabilities that go beyond the current technology landscape will be required in order to treat the vast majority of genetic diseases. Our goal is to unlock the full potential of genome editing by developing tools with new capabilities using novel cellular machinery discovered from the natural environment. Our company was founded by Brian C. Thomas and Jillian F. Banfield, pioneers in the field of metagenomics. They recognized the power that naturally evolved microbial systems could have in revolutionizing access to enhanced genome editing technologies to create potentially highly efficacious and curative genetic medicines. Our metagenomics discovery platform is foundational to our business and therapeutic pipeline. This platform enables us to rapidly and effectively find and engineer highly active natural enzymes sourced from nature into genome editing tools that are highly specific, efficient, and have enhanced targetability.

CRISPR systems, having been studied for decades, are known to be ubiquitous in the microbial world. However, it was not until the recent discovery and characterization of CRISPR-SpCas9 that it became possible to use these systems as tools for genome editing. SpCas9 is only a single representative of the CRISPR systems that exist in nature, leaving open the potential to identify and develop new genome editing tools through continued and systematic discovery efforts. The vast majority of microbes, including bacteria, archaea, viruses, fungi, and single-celled eukaryotes, are extremely difficult, and potentially impossible, to study using traditional laboratory methods. We aim to address the limitations of traditional laboratory methods through a process whereby microbes are recovered from the natural environment and studied based on their genetic blueprint-their genome sequences. This approach has supported the ability to characterize the extent of CRISPR biology on the planet, and to expand beyond CRISPR to identify a vast collection of novel enzymes and other cellular machinery.

Samples from diverse climates and geographies have been used to build a metagenomic database that is continuously analyzed via high-throughput screening that utilizes AI and proprietary algorithms to direct our discovery efforts. This continuous genome mining process generates expansive libraries of novel systems, including nucleases, deaminases, RTs, and CAST systems (together, “effector enzymes”), that make up the foundational building blocks necessary to assemble a modular, novel genome editing toolbox that can be harnessed to make precise changes to the human genome to address a variety of important diseases with curative intent. We have simultaneously developed a modular approach to engineering that involves interchanging key components in a high-speed process to translate the discovery of novel nucleases and other effector enzymes into optimized genome editing systems with substantially reduced translation time compared with previously described systems. We estimate that our metagenomics platform and modular engineering process has resulted in the discovery of over 20,000 novel genome editing systems, to which we are seeking coverage through our pending patent portfolio. These systems span hundreds of novel nuclease families and fuel a growing genome editing toolbox.

Mining Our Natural Environment to Create an Expansive Genomics Database

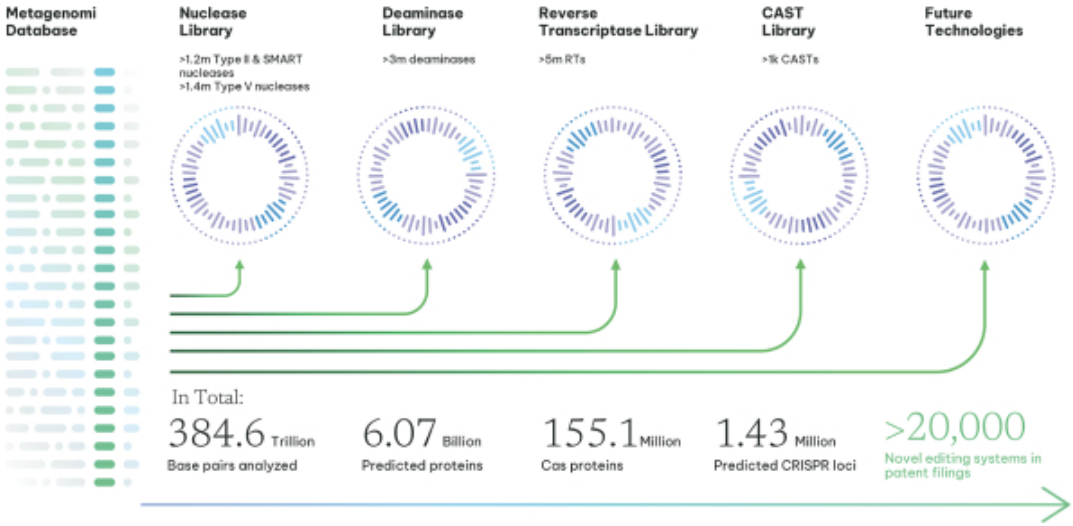
We aim to harness the power of the metagenome by using our continuous genome mining process to assemble a broad, diverse library of novel genome editing nucleases and other effector enzymes. This is accomplished by studying all the DNA from microbial communities at the same time. Our mining process begins with proprietary sampling in which our scientists collect samples from diverse climates and geographies to build a database that spans broad biodiversity including, but not limited to our local natural environments and extreme environments such as from high-altitudes, high-temperatures, and hydrothermal vents below the ocean. Samples collected in a natural environment may contain billions of cells representing tens of thousands of distinct species. Every sample collected from a natural environment is subjected to deep DNA sequencing and bioinformatics analysis to identify and functionally analyze recovered microbial genomes for the discovery of genetic elements of interest.

Through our metagenomics process, DNA is extracted from these environmental samples and sequenced in order to reconstruct the genomes of the resident microbes. The process of DNA extraction and sequencing results in the fragmentation of each individual microbial genome into small sections which are blended into a backdrop of all other sequences present. Due to the clonal replication of the organisms in microbial communities, multiple copies of nearly-identical genome sequences are recovered, and the overlap between these sequences provides the information needed to reconstruct the original genomes. This complex process is only the beginning. Once reconstructed, it is necessary to predict the function of each section of the newly reconstructed genomes. Our platform has facilitated the discovery of vast sequences and functional components that, to our knowledge, have never been published before. These novel components have resulted from the unique selective pressures that microbes face from different environments and that drive immense genomic diversification. The evolutionary process of natural selection provides highly optimized enzymes that require little, if any, protein engineering. The novelty of the genomes recovered from metagenomics requires the de novo prediction of genes, proteins, non-coding RNAs, and other essential features. This is challenging and necessary due to the fact that previously studied 'reference' sequences do not provide enough information to sufficiently guide this process. Considering that these evolutionary processes have been at work for billions of years, there is considerable genetic diversity to mine for the development of highly-optimized genome editing tools. Our industry-leading database of novel microbial genetic sequences provides the basis for our discovery process. To date, our continuous genome mining process has analyzed over 460 trillion base pairs of DNA sequence, an amount of data roughly equivalent to what would be required to sequence hundreds of thousands of human genomes, and resulted in the prediction of over 7.4 billion proteins and over 1.75 million CRISPRs – including over 322 million Cas proteins.

Leveraging AI and High-Throughput Screening to Identify Novel Editing Systems

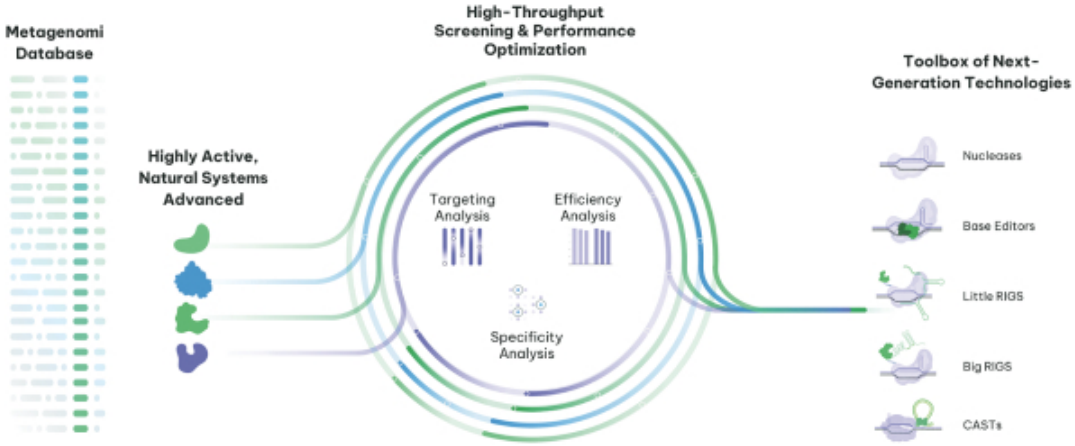
To interrogate our metagenomics database, our platform combines AI, including machine learning, and proprietary algorithms run on expansive cloud computing infrastructure to screen for novel CRISPR nucleases and other effector enzymes at high speed. The screening process consists of high-throughput sequencing that allows us to quickly analyze large amounts of genomic data and subsequently synthesize the identified components, building blocks, into functioning CRISPR nucleases and other effector enzymes that can be interrogated biochemically and in mammalian cells. Once extensively characterized, novel nucleases and other effector enzymes are categorized into our ever-expanding library. Through the metagenomics-driven discovery process we have characterized one of the largest known libraries of novel nucleases, which we estimate includes 20,000 novel genome editing systems from hundreds of nuclease families. We have also assembled a robust library of other effector enzymes to design and engineer the next generation of genome editing systems that are fit for essentially any therapeutic purpose. Our effector enzyme library includes over three million deaminases, over five million RTs, and thousands of CAST systems, as shown in Figure 3 below. The continuous interrogation of an ever-expanding database of programmable nucleases and other enzyme effectors accelerates the pace of learning and insights to feedback into proprietary machine learning algorithms and further separates us from peer companies. As we continue to build upon our metagenomic library, we expect to make additional discoveries of novel genome editing technology and expand our toolbox.

Figure 3. Our Effector Enzyme Library.



From this library, we select our lead nucleases and other effector enzymes through a funnel of stringent performance and safety criteria that involves testing in a series of cell-free, cell-based, and *in vivo* experiments. Ultimately, we prioritize editing systems that exhibit high editing efficiency and precision, and have a compact size that will optimize their delivery. Because most systems added to our genome editing toolbox have different genomic targeting specifications, we believe that our expanding toolbox could enable us to target every base pair in the human genome. This process, highlighted in Figure 4, helps us to identify highly active natural enzymes that require minimal engineering and optimization to translate into potentially curative genetic medicine.

Figure 4. Overview of High-Throughput Screening Process.



Our metagenomics platform and modular engineering process has supported the discovery and development of our broad genome editing toolbox at a rapid pace since our company's founding in 2018. By selecting highly active nucleases from our library, our process requires minimal optimization to develop genome editing systems. We utilize a modular engineering approach to match lead nuclease candidates with an optimal gRNA and targeting domain in order to optimize targeting, specificity, and editing efficiency. Furthermore, additional effector enzymes can be included to modify the function of the system, for example by adding a deaminase to a nickase variant for base editing.

In order to achieve these modifications, we leverage our vast library of editing systems to perform targeting domain swaps between enzymes, substituting domains from less-active enzymes into the backbone of highly-active nucleases. This results in chimeric enzymes that can provide high efficiency editing at gene loci.

The modular engineering process is accelerated using *in silico* screening algorithms to predict the optimal chimera. This predicative, high-speed engineering process allows us to continually iterate across each component of the genome editing system to quickly develop an engineered system that is optimized for various therapeutic applications.

Modular engineering can be used to adjust the targeting of high-performing systems by leveraging the diverse targeting capabilities of diverse Metagenomi nucleases. Given the measured targeting density of our toolbox, we believe that essentially any codon and ultimately every base pair in the human genome could be addressed with our gene editing systems.

Genome editing remains in the early stages of development and our platform allows us to continuously learn, iterate, and optimize our genome editing toolbox in pursuit of curative genome editing medicines. The increasing insights from our modular engineering and target domain swapping are captured and further interrogated and organized by our proprietary AI platform to accelerate the pace of future development and further separate us from our peers. As the genetic medicine field continues to rapidly evolve, our platform positions us to be at the forefront of unlocking the full potential of genome editing through the continuous discovery of new editing systems and the development of the next wave of genetic medicines.

Our Solution: Proprietary Toolbox Derived from Our Metagenomic Approach

Our Platform of Genome Editing Technologies

Gene Edit	Metagenomi ("MG") Tools	Key Attributes
Double-strand DNA break (e.g for knockdown, knock-in, gene activation, and exon skipping)	**Type II Nucleases**	• Extensive targetability (Alexander et al 2023, Lamothe et al 2023) • Can be converted to nickases for base editing and RIGS
	Type V Nucleases	• Systems with small gRNAs (Goltsman et al 2020) • Includes ultra-small systems that expand delivery approaches (e.g., AAV)
	SMART Nucleases	• Ultra–small systems expand delivery approaches (e.g., AAV) (Goltsman et al 2022) • Can be converted to nickases for base editing and RIGS
Nucleotide changes (i.e. base editing)	**ABE and CBE**	• Engineered from MG nickase and MG deaminase • CBE also include MG uracil glycosylase inhibitor ("UGI") • Base editors engineered from type II have extensive genomic targetability • SMART base editors are smallest nickase-based systems characterized to date
Small changes (1-100 base pair replacement, insertion, or deletion, i.e. prime editing)	**Little RIGS**	• Engineered from MG nickase and MG RT • Ultra-small RTs are highly active and accurate for prime editing • Enabled by extensive targetability and deliverability of MG nickases
Large insertions (>100 base pair integrations)	**RNA-templated: Big RIGS**	• Engineered from MG nickase and MG RT • MG RT are accurate, and can convert >4,000 bp RNA templates into DNA • Programmable integration of large transgenes delivered as RNA
	DNA-templated: CAST and other systems	• CASTs are naturally occurring programmable transposase systems • Ability to site-specifically integrate large transgenes delivered as DNA, possibly including templates much larger than 4,000 bp • Potential to addresses any genetic disease driven by loss of function

All components of our toolbox have been discovered and derived from our proprietary metagenomics library. We have assembled a full suite of differentiated tools that, together, can potentially effectuate any desired gene modification – gene knockdown, gene knock-in and replacements. We believe there is no other single platform enabling the breadth and differentiation of genome editing technologies as our toolbox. All elements of our toolbox are wholly owned, and we have constructed a broad patent estate that protects our intellectual property, and it will continue to expand as we discover, interrogate, and optimize our novel editing systems. As we continue to expand our metagenomic library, we expect to make additional discoveries of novel genome editing technology. The core technologies in our toolbox to date are outlined in the above table.

Key Attributes of Our Proprietary Toolbox

Key advantages of our platform and technologies are:

1) ***Potential to create a full spectrum of genetic medicines –*** Our broad suite of genome editing technologies include: programmable nucleases, base editors, RIGS and CASTs, that, together, can potentially effectuate any desired modification to the genome – gene knock-down, gene knock-in, and replacements. This allows us to address a diverse set of mutations by matching the right tool to a specific target, with limited unintended effects such as off-target editing. As such, we intend to prosecute a genetic medicine therapeutic development strategy across a broad array of diseases and target organs including liver, central nervous system, muscle, kidney, and lung.

2) ***Potential next generation genome editing systems*** – Our scientific underpinnings based in metagenomics provide a continuous engine for discovering and developing potential next generation genome editing systems. For example, RIGS and CAST. As we continue to build upon our metagenomic library we expect to expand our toolbox as we make more discoveries. We have constructed a broad patent estate that protects our intellectual property, and it will continue to expand as we discover, interrogate, and optimize our novel editing systems.

3) ***Ultra-small nuclease platform to expand*** **in vivo** ***delivery of multiple genome editing systems*** – Compact systems create potential advantages for delivery, manufacturing, and dosing. For example, at 429 aa in length, one of our SMART nucleases is a fraction of the size of the industry-standard SpCas9 system, which is 1,300 aa and exceeds the delivery capacity of standard AAV vectors. The ability to package our systems into a single AAV will enable more efficient targeting of organs and diseases beyond what is currently possible with LNP delivery.

4) ***Designed to edit any target in the human genome*** – Our metagenomics library contains hundreds of nucleases with diverse targeting abilities that allow us to address a diverse set of mutations that cause disease, including those found at sites that often cannot be targeted by first-generation nucleases. This allows us to select the ideal nuclease for any target site of interest. Given the measured targeting density of our toolbox, we believe that essentially any codon in the human genome could be addressed with our gene editing systems.

5) ***Shortened optimization period –*** We benefit from a diverse set of highly-active nucleases and effectors which have required little -if any- protein engineering to optimize. These highly active natural enzymes allow us to quickly identify systems for therapeutic development. As a result of not having to heavily engineer systems to be active in human genome editing applications, we are able to move quickly from discovery to candidate nomination for particular genetic disease applications.

6) ***Ability to target large gene integrations into the genome using our RIGS and CAST systems –*** Our novel RIGS and CAST systems allow for programmable, large gene insertions, an outcome which has been a major challenge for the genome editing field. RIGS are a proprietary genome editing system engineered from nickases and RTs, while CAST are systems that exist in nature but have required engineering to allow

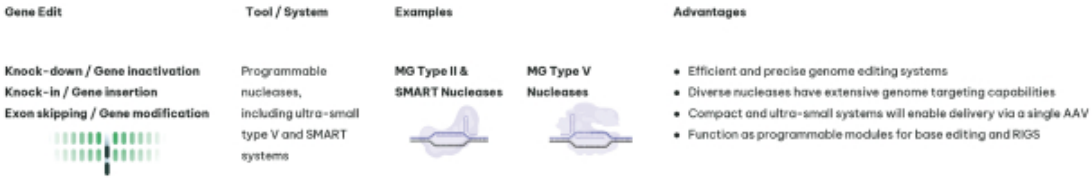
for mammalian genome editing. We believe we are the first to demonstrate targeted genomic integration in human cells using compact CAST systems. While CAST have the theoretical capability to integrate very large DNA templates into the genome, RIGS are also being developed in order to achieve targeted, large genomic integrations when all components need to be delivered as RNA, for example when using standard LNP delivery technology.

Specific Components of Our Toolbox

Programmable Nucleases

Overview

Figure 5. Schematic Showing Programmable Nucleases and Their Use for Genome Editing.



We are building a toolbox that includes programmable nucleases that are selected to target any site in the human genome with high precision. Most therapeutic genome editing applications to date use CRISPR/SpCas9 as the programmable nuclease. However, this system has several limitations that prevent its broad use across the thousands of genetic diseases that impact patients. Most importantly, SpCas9 is limited by where it can be targeted in the human genome and in some cases has a lack of specificity that leads to frequent off-target editing. In addition, the size of the SpCas9 enzyme complicates options for delivery using industry-standard methods. We have explored diverse programmable nucleases found in nature in order to identify novel systems that overcome all of these limitations (Figure 5).

The discovery of new CRISPR enzymes with unique functionality and structure may offer the potential to further disrupt genome editing technologies, improving speed, specificity, functionality, and ease of use. CRISPR systems are commonly organized into two classes, six types and an expanding number of subtypes based on functional characteristics and evolutionary relatedness. We focus our attention on CRISPR type II and type V systems, owing to the simplicity of these programmable nucleases. Type II and type V nucleases are RNA-guided enzymes that can be programmed to target specific sequences of DNA, and sometimes RNA. Unlike type II nucleases, type V nucleases are more likely to generate staggered versus blunt-end cuts in double stranded DNA. Nucleases from both of these systems are extensively used in biotechnology, despite limitations that prevent their more widespread use in therapeutic applications. Our type II and type V CRISPR systems are distinct from previously studied CRISPR enzymes (based on their protein sequence, size, and biochemistry), while maintaining the core functionality of being programmable nucleases. Our lead systems have undergone extensive study across multiple mammalian cell types and animal models, demonstrating their utility as genome editing tools in both *in vivo* and *ex vivo* applications.

Throughout our search for novel programmable nucleases, we have identified several new types of ultra-small nucleases that range in size from approximately 450 aa to 1,000 aa, compared with type II and type V nucleases which are typically between 1,000 aa and 1,500 aa in length (for comparison, the most studied SpCas9 enzyme is 1,368 aa). Our newly-discovered, ultra-small nucleases include new types that we collectively refer to as SMART, as well as those that come from novel type V sub-groups. Given their small size, these new systems have the potential to be delivered to additional therapeutic target sites that expand beyond what is possible with first-generation systems. In adapting these novel systems into potential precision genetic

medicines, our programmable nucleases are designed to have the capability to target essentially any therapeutically relevant genomic site with a high level of specificity (i.e. with limited off-target editing), while expanding compatibility with available delivery technologies.

Our Approach

To date, we have identified thousands of novel CRISPR type II, type V and SMART nucleases, including ultra-small systems, expanding the collection of known programmable nucleases by mining our proprietary metagenomics database. Using high-throughput *in vitro* testing, we have validated the activity of hundreds of novel nucleases. This has led to the identification of highly-active natural nucleases while also enabling us to catalog the unique targeting capabilities of each system. We select for natural, un-engineered systems with high activity and specificity. Our best-characterized nucleases have demonstrated activity levels meeting and often greatly exceeding SpCas9 while exhibiting low levels of off-target editing in mammalian cells. Given the measured targeting density of our toolbox, we believe that essentially any codon in the human genome could be addressed with our gene editing systems. The targeting density (frequency of targetable sites in the human genome) of the toolbox greatly increases the likelihood of identifying a highly active and specific nuclease and gRNA combination for any therapeutically relevant genomic target. We can use these programmable nucleases for genome editing, and also as a chassis for developing base editors and RIGS. The diverse biochemistry of these novel systems, including their size and DNA cutting profiles, makes it possible to link editing systems to the particular genomic target, edit type, and delivery technology we believe are required to develop genetic medicines. Additional discovery and characterization of programmable nucleases will further expand the targeting density of our toolbox, improving the overall activity and specificity of lead systems identified for therapeutic development.

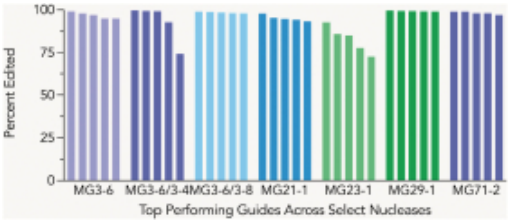
Our best-characterized type II and type V nucleases are suitable for a wide variety of genome editing applications

Nucleases with the activity and specificity required for potential therapeutic genome editing applications are identified through a series of high-throughput screening and characterization steps. Novel protein and gRNAs are first predicted bioinformatically and then validated in both cell-free and mammalian cell screens. These steps validate the activity of a system and provide an accurate measure of targeting and specificity profiles. This approach has been applied to both type II and type V CRISPR nucleases in order to establish an expanding collection of well-characterized systems. In addition to discovery of novel nucleases with distinct targeting capabilities, a modular protein engineering approach is also used in order to create chimeric systems. The chimera approach leverages the high activity of top-performing systems but changes where they can edit by incorporating distinct targeting domains from related systems. Through continuous discovery and refinement, this collection of systems will expand, with the potential to target essentially every site in the human genome, while also creating a chassis to support the accelerated development of base editing, prime editing, and targeted integration systems.

Given the measured targeting density of our toolbox, we believe that essentially any codon in the human genome could be addressed with our gene editing systems.

Figure 6. Our Expanding Nuclease Toolbox is Designed to Enable Extensive Targeting throughout the Human Genome.

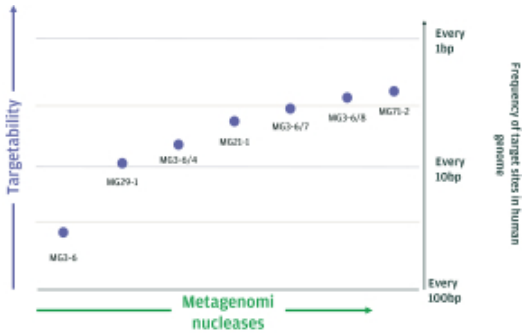
Figure 6a. Our nucleases have shown high editing efficiency in mammalian cells.



* Editing efficiency was determined based on the frequency of InDels detected by next generation sequencing ("NGS") at genomic sites targeted by each nuclease.

* Graph depicts editing efficiency for the top five guides for each of six nucleases.

Figure 6b. Given the measured targeting density of our toolbox, we believe that essentially any codon in the human genome could be addressed with our gene editing systems.



* Graph depicts cumulative targetability.

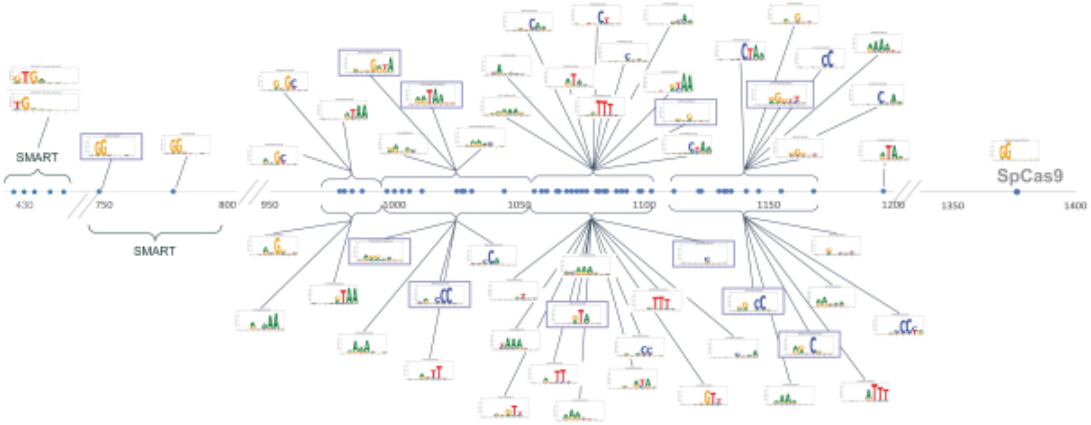
* Targeting density (targetability) is the average distance between nuclease target sites in the human genome.

Our nucleases are capable of highly efficient genome editing in mammalian cells. Systems are tested across a collection of gRNAs designed based on the unique requirements and targeting preferences determined for each system. If a nuclease is routinely capable of editing at near-saturating levels, sometimes up to 99% editing efficiency, the system will go through further characterization and therapeutic development. Figure 6a shows the high editing efficiency of six systems observed in mammalian cells, indicating that they have the potential for broad use in therapeutic development given an ability to rapidly identify high performing guides that require minimal optimization.

Given that each nuclease has distinct genomic targeting capabilities, we are able to determine which sites in the human genome can be addressed by each system. Figure 6b shows how the targeting density of our toolbox increases with each new system. Given the measured targeting density of our toolbox, we believe that essentially any codon in the human genome could be addressed with our gene editing systems. This collection of systems includes both natural enzymes as well as chimeric forms that have been engineered to alter the targetability of the nuclease. For reference, SpCas9 is able to target roughly every ten base pairs in the human genome. The targeting density of the toolbox increases the likelihood of identifying a highly-potent guide for any desired genome edit.

Our nuclease toolbox is on track to target anywhere in the human genome

Figure 7. Our Nucleases are Compact with Diverse Targeting Sequence Motifs, Selected to Enable Broad Genome Editing Applications.



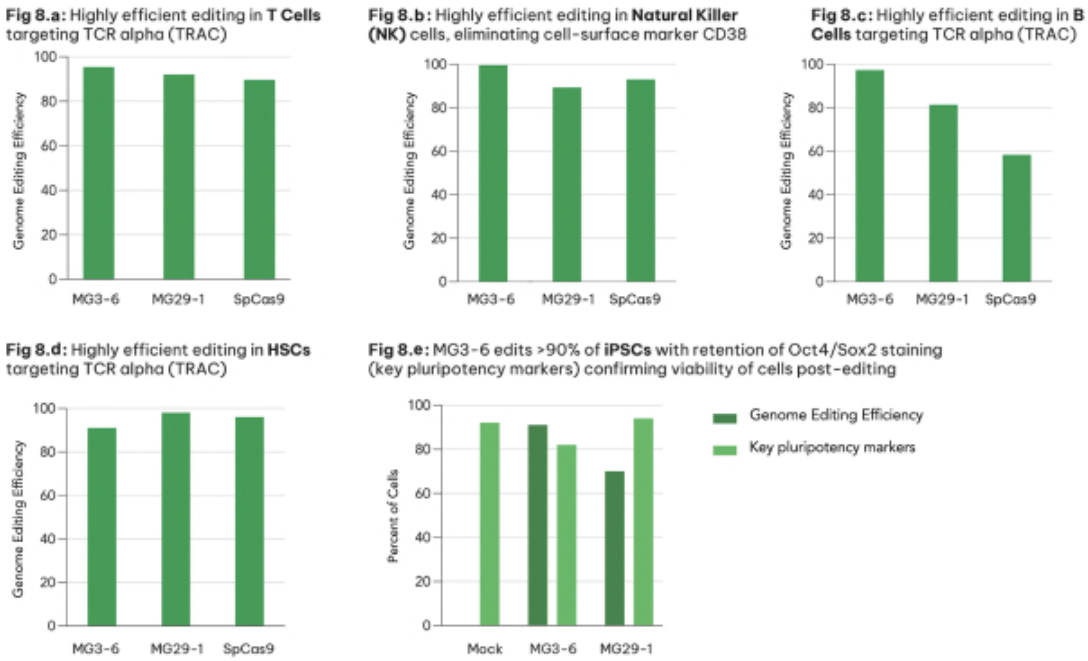
* Graph depicts a selection of our nucleases, including their size in aa on the horizontal axis and their corresponding targeting motifs shown as sequence logos (PAM and TAM sequences), compared to SpCas9.

Multiple parameters are considered when screening and promoting nucleases for further development, including the size of the system, activity across various assays and cell types, and targeting. For CRISPR systems, nuclease targeting is limited by a PAM sequence, or protospacer adjacent motif. The PAM is a short DNA sequence motif that must be present next to a target sequence in order for the nuclease to cut at the target site. Other systems have similar requirements that go by different names. For example, some SMART nucleases recognize functionally similar sequences called target-adjacent motifs ("TAMs"). Figure 7 shows the diversity of protein sizes and targeting motifs recognized by our nucleases. The vast diversity of the protein size and targeting motif requirements of our nucleases continues to fuel toolbox development and will enable the identification of additional systems that could make it possible to target nearly every base pair in the human genome.

Our nucleases are highly active across many human cell types which may indicate broad potential utility for human therapeutic applications

Beyond initial nuclease benchmarking conducted in immortalized mammalian cell lines, we have conducted extensive surveys to show that these systems can be used in a variety of primary cells important for preclinical studies (i.e., T cells, natural killer ("NK") cells, B cells, hematopoietic stem cells ("HSCs") and induced pluripotent stem cells ("iPSCs")), as illustrated by Figure 8 below. The versatility of these exemplary systems indicates their potential use in broad therapeutic applications. These benchmarks against SpCas9 also indicate that our systems may have potency advantages in which fewer genome editing reagents will need to be delivered in order to achieve high levels of genome editing.

Figure 8. Our Nucleases Show High Editing Efficiency in Human T Cells, NK Cells, B Cells, HSCs, and iPSCs.



* Two example nucleases are shown, type II MG3-6 and type V MG29-1.

* Editing efficiency was determined based on the frequency of InDels detected by NGS at genomic sites targeted by each nuclease.

Our nucleases exhibit high specificity when benchmarked in multiple mammalian cell types

Our therapeutic development of genome editing systems require that they exhibit high activity and specificity across multiple cell-based models. We employ a broad set of specificity and off-target assessment methodologies, including *in silico*, biochemical, and cell-based approaches. Figure 9 shows peer-reviewed and published off-target assessments conducted using an unbiased, industry standard, cell-based, oligonucleotide capture method. In Figure 9a we show that two of our nucleases are more specific than SpCas9 when compared across multiple guides, and in Figure 9b we show that we can identify guides with no to minimal detectable off-targets with two lead nucleases tested in both immortalized and primary human cells. This trend has continued, and we are able to identify guides that have minimal or no detectable off-target activity for therapeutic targets. It is expected that the higher specificity of these systems will translate into better safety profiles across various therapeutic genome editing applications.

Figure 9. Our Nucleases are Highly Specific.

Figure 9a. Our nucleases are highly specific in multiple mammalian cell types.

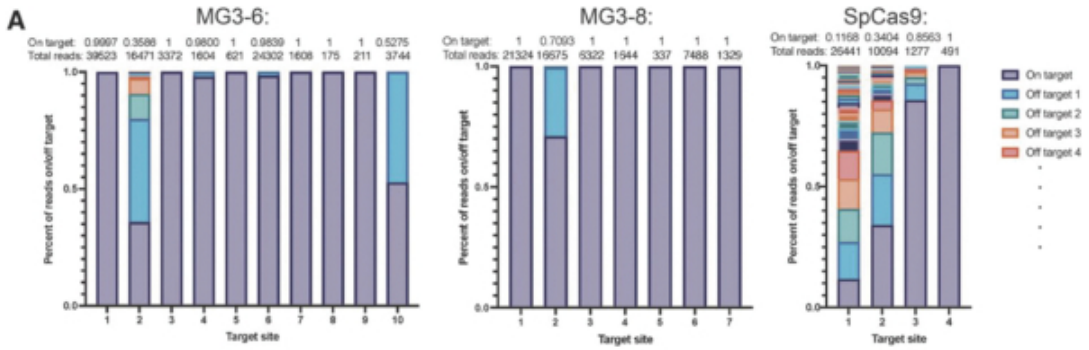
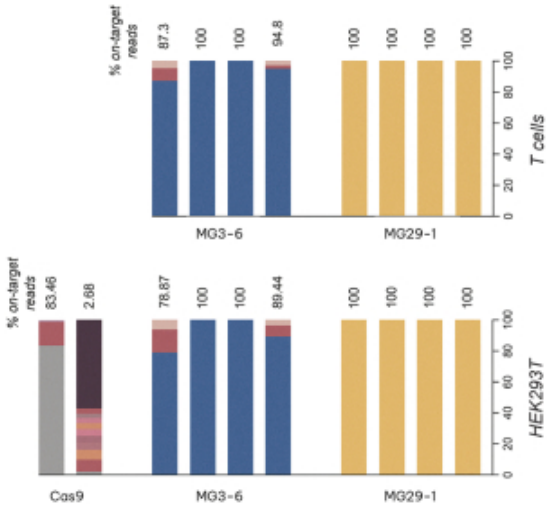


Figure 9b. Our best-characterized nucleases have guides that showed no to minimal detectable off-target edits when assayed in immortalized and primary human cells.



* Figure 9a: Off-target analysis showed that our type II MG3-6 and MG3-8 nucleases have high specificity in multiple mammalian cell types as measured by the number of off-target sites and the fraction of on-target reads. The target sites are the same between the three nucleases, including SpCas9. Off-target experiments were conducted at N = 2, and reads for both replicates were summed for analysis. Double strand break ("DSB") discovery via capture of a double-stranded oligonucleotide in primary T cells using the same MG3-6 and MG29-1 guides from (A; averaged across three biological replicates). Source: Alexander et al 2023 CRISPR Journal

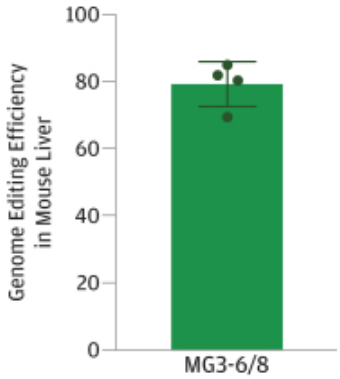
* Figure 9b: DSB discovery via capture of a double-stranded oligonucleotide in HEK293T cells with SpCas9 (on target read in gray), guides MG3-6 TRAC B2, TRAC D2, TRAC 6, and GR 3 (on target in blue), and MG29-1 guides TRAC 9, TRAC 19, TRAC 35, and GR 13 (on target in yellow) across three biological replicates. Source: Lamothe et al 2023 CRISPR Journal

Our nucleases enable highly efficient and specific in vivo *genome editing in preclinical evaluations*

Type II MG3-6/8 is our chimeric nuclease that has been extensively characterized *in vitro* and *in vivo*. This system is engineered from the MG3-6 chassis, which was discovered from the genome of a commensal, non-pathogenic representative of the human microbiome that showed high editing efficiencies when tested

across multiple mammalian cell types (see Figures 6, 8 and 9 above). The engineering involved changing the PAM interacting domain of the chassis, which enables the enzyme to be targeted to new sites in the human genome. Figure 10 shows that this system is suitable for *in vivo* applications, based on saturating levels of editing achieved in a mouse study with a single administration of nuclease mRNA and guide encapsulated in a LNP with tropism to the liver.

Figure 10. *In Vivo* Editing in Mice with MG3-6/8 Nuclease.



Editing efficiency was determined based on the frequency of InDels detected by NGS at genomic sites targeted by each nuclease.

* Delivery by mRNA and LNP, dosing at 1 mg/kg.

* Mean of 79% genome editing efficiency as measured by the frequency of InDels detected by NGS at the targeted genomic site.

In addition, one of our most highly characterized type V nucleases, MG29-1, demonstrated high activity and specificity during multiple preclinical studies spanning from *in vitro* to NHP. Originating from a bacterial genome found in a deep sea hydrothermal vent, MG29-1 has a smaller protein (1,280 aa) and gRNA (~70 nt) compared with MG3-6 (1,135 aa and ~110 nt) and SpCas9 (1,368 aa and ~100 nt). MG29-1 has demonstrated up to 97% editing in primary mouse hepatocytes in culture (Figure 11a), superior liver editing to an exemplary SpCas9 guide targeting an overlapping genomic site when delivered to mice using a LNP that delivers primarily to the hepatocytes in the liver (Figure 11b), and on average 50% editing in the whole liver of NHP when delivered in a LNP that delivers primarily to the hepatocytes in the liver (Figure 11c, guide 2). Approximately 76% of the genomes in mouse liver are from hepatocytes based upon a published analysis of gene editing in whole liver compared to hepatocytes isolated from the same edited mice. Using this conversion factor of 76% (1/0.76), we achieved 100% editing of hepatocytes with MG3-6/3-8 (Figure 10) and 94% editing of hepatocytes with MG29-1 (Figure 11b).

In cynomolgus monkeys, it is estimated that hepatocytes make up 60% of the cells in the liver. Therefore, 50% editing in the whole liver achieved with MG29-1 in NHP (Figure 11c, guide 2) translates to editing of approximately 80% of the hepatocyte genomes which are the therapeutically relevant target cell.

Figure 11. Our Type V MG29-1 Nuclease is a Highly Active Natural Enzyme for *In Vivo* Genome Editing.

Figure 11a. MG29-1 achieved saturating levels of editing in primary mouse hepatocytes.

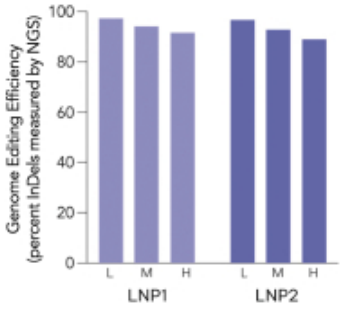


Figure 11b. MG29-1 has higher potency than SpCas9 when editing mouse liver cell genomes *in vivo*.

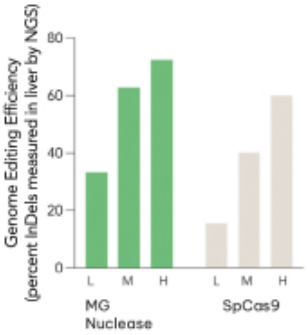
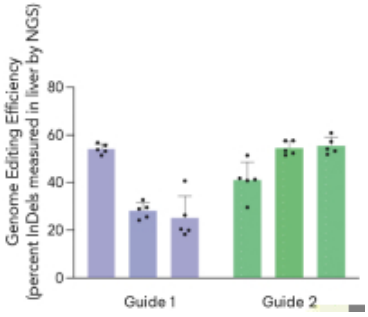


Figure 11c. MG29-1 demonstrates successful editing in NHPs.



* 50% whole liver editing = 80% hepatocytes editing.

* MG29-1 and SpCas9 were delivered by LNP with co-formulated mRNA and gRNA.

* gRNAs for both MG29-1 and SpCas9 have overlapping target sites.

* mRNAs for both nucleases use the same overall design and were codon optimized with the same algorithm.

* The SpCas9 gRNA incorporated extensive optimizations published in the literature.

* InDels were analyzed by NGS four days after IV infusion.

* L, M, H, refer to low, medium and high doses.

We use multiple unbiased, industry standard methods to identify putative off-target edits, which are then investigated using sensitive targeted sequencing. To date no detectable off-target editing has been observed for the MG29-1 lead guide for two of our therapeutic programs at therapeutically relevant doses, which is consistent with MG29-1 being a highly efficient, specific and programmable nuclease suitable for broad *in vivo* genome editing applications. Beyond MG29-1, the multitude of nucleases in our toolbox enables us to screen an extensive guide library for any genomic locus of interest. For exemplary lead guides that have been examined for off-target editing we observe minimal or no detectable off-target editing.

Our ultra-small nucleases are efficient genome editors that unlock additional delivery modalities

Delivery of genome editing payloads is often restricted by the size limitations of the delivery vehicle. Therefore, we leverage our metagenomics database to find new nucleases that are significantly smaller than current systems. After searching through billions of predicted proteins from bioinformatically reconstructed microbial genomes, we uncovered several distinct types of ultra-small nucleases. Our lead ultra-small nucleases are significantly smaller than CRISPR SpCas9, enabling new and improved *in vivo* delivery methods and new possibilities for building base editing systems and prime editors that can be packaged in size-constrained delivery vehicles. Typical CRISPR Cas9 systems are about 1,300 aa in length whereas some of these new systems are just over 450 aa. Compact systems create potential advantages for delivery, manufacturing, and dosing. Furthermore, they can be delivered to organs and tissues currently only accessible by AAV, given that the nucleases are well-within the packaging limitations of these delivery vectors. The smaller size of these nucleases compared to previous systems potentially unlock target indications beyond applications in the liver. Because of their novel biochemistry and divergence from typical type II, we refer to some of these ultra-small nucleases as SMART. In addition, we identified several novel families of ultra-small type V nucleases. Unlike compact type V, and all other previously studied type V, SMART have a dual catalytic domain structure that enables engineering of nickase variants that can be used for base and prime editing.

Figure 12 shows that genome editing efficiencies achieved for SMART and compact type V nucleases are comparable to other lead systems. These results show that our ultra-small nucleases are highly efficient genome editing systems that have the potential for extensive therapeutic applications, including for those in which delivery is a limiting factor.

Figure 12. Our Ultra-Small Nucleases are Designed to be Highly Efficient Genome Editing Systems that Are Well-Within the Packaging Limits of AAV Vectors.

Figure 12a. Schematic representation of how our ultra-small nucleases are a fraction of the size of a typical CRISPR SpCas9 nuclease.

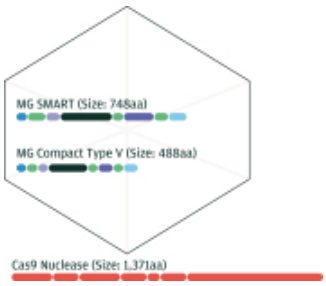
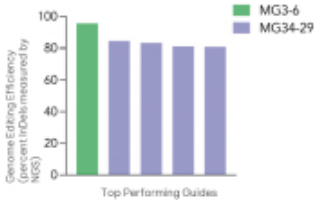
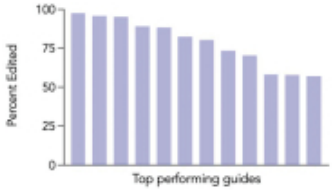


Figure 12b. SMART nuclease showed high editing efficiency in mammalian cells, prior to optimization.



* InDels are measured by NGS.
* Each bar represents a distinct guide.
* MG3-6 used as internal control.

Figure 12c. Compact type V nuclease showed high editing efficiency in mammalian cells, prior to optimization.



* InDels are measured by NGS.
* Each bar represents a distinct guide.

Base Editors

Overview

Figure 13. Schematic Showing the Two Primary Types of Base Editors under Development.

We leverage our toolbox of programmable nucleases to develop a highly targetable and flexible base editing platform compatible with various delivery technologies. Base editing modifies individual bases in the genome without making double-stranded breaks in the DNA. This approach uses a chemical reaction designed to create precise, predictable, and efficient genetic outcomes at the targeted sequence. These precise changes to individual base pairs in the genome can be used to correct or change genomic sequence in order to address disease. Notably, the most common class of genetic mutations are errors of a single base, known as point mutations. These point mutations, many of which could be addressed with a base editor, represent approximately 58% of all the known genetic errors associated with disease. Furthermore, base editors can be used to precisely knockdown genes by introducing premature stop codons or interrupting gene splice sites.

There are two types of base editors: ABEs and CBEs. ABEs convert adenine-thymine base pairs to guanine-cytosine base pairs. CBEs target cytosine-guanine and convert them to thymine-adenine. We are developing both ABEs and CBEs, which have been validated across multiple mammalian cell types and *in vivo*, to enable broad use of the base editing approach for addressing disease (Figure 13).

Base editors are composed of a targeting enzyme, typically a programmable nuclease that has been engineered to localize to a specific site in the genome but not cause a dsDNA break, and a deaminase, which is responsible for the chemical conversion of targeted genomic bases. Base editors can be engineered using modified nickase programmable nucleases that have been engineered to nick rather than cut genomic targets (i.e. a nickase variant). The nickase recognizes and binds to specific DNA sequences, determined by a gRNA, enabling deaminases that are fused to the nickase to modify the targeted bases. Typically, the modified bases are found on the single-stranded DNA that is exposed at a target site when the gRNA is bound to one of the strands of DNA. The efficiency of cytosine base editors can be improved by the addition of another enzyme called a UGI. The UGI protects edited bases against DNA repair machinery that would otherwise remove them and revert the edited sequence back to its original form.

Base editing results in one or more mismatched bases in the dsDNA, which are resolved by DNA repair mechanisms in the cell. Nickases are typically used such that the DNA strand opposite to the modified bases is nicked, thus biasing DNA repair pathways to favor the modified strand over the original sequence. The result is a precise change in one or more targeted bases without creating double-stranded breaks or requiring a donor template.

Our Approach

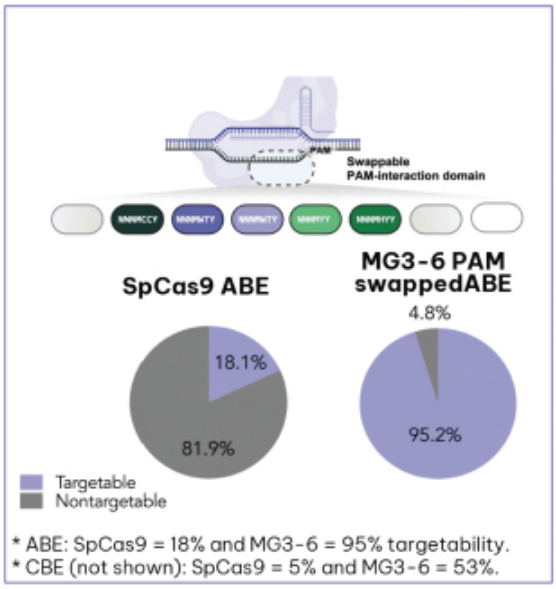
We are leveraging our toolbox of programmable nucleases and our metagenomics discovery platform to develop next generation base editing tools. Our programmable nucleases provide the ability to efficiently and precisely target locations in the genome required in order to potentially create a wide-variety of genetic medicines. In addition, the availability of ultra-small SMART effectors enables us to develop base editors that could be delivered to various target tissues and organs. While established base editing systems using SpCas9 require splitting the system into two AAV vectors for delivery, those developed from SMART are designed to be within the packaging limitations of a single AAV. We have discovered and engineered what we believe to be two of the smallest base editors developed to date, one SMART ABE that is 623 aa in length and another SMART ABE that is 969 aa. These systems provide substantial opportunities for vector optimization compared with SpCas9 ABEs that are 1,588 aa. Furthermore, the flexibility of the modular, chimeric nuclease platform, enables rapid optimization of base editors capable of editing at a multitude of target sites, since engineering and optimization applied to one base editor can rapidly be applied to other systems with the capability of targeting to new genomic sites.

Given that base editors require deaminases, and a UGI in the case of cytosine base editors, substantial enzyme discovery beyond programmable nucleases has been required in order to develop highly efficient base editors that have the potential to overcome the limitations of the current technology. We have mined over three million deaminases in order to identify enzymes with the capability to function as part of base editing systems. In many cases these novel deaminases have required minimal protein engineering to achieve therapeutically-relevant editing efficiencies in multiple studies. The ability of our metagenomics discovery platform to identify novel enzymes with high activity makes it possible to rapidly develop differentiated technology that surpasses first-generation systems.

Our base editors are highly active in mammalian cells across various genomic targets

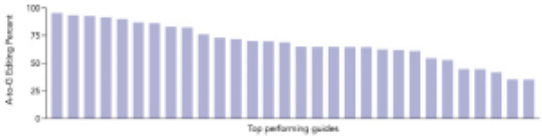
Figure 14 ABE and CBE Developed from Type II MG3-6 System Have Been Shown to be Highly Active in Mammalian Cells, with Extensive Genome Targetability to Enable Potential *In Vivo* and *Ex Vivo* Therapeutic Development.

Figure 14a. PAM interacting domain engineering was used to develop a suite of chimeric MG3-6 base editors with extensive genome targetability.



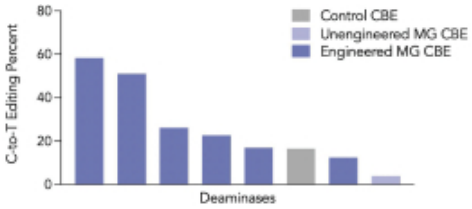
* ABE: SpCas9 = 18% and MG3-6 = 95% targetability.
* CBE (not shown): SpCas9 = 5% and MG3-6 = 53%.

Figure 14b. ABE screening identified guides capable of achieving saturating levels of A-to-G genome editing in mammalian cells.



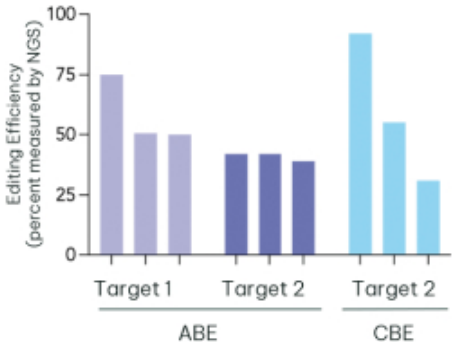
* Optimized ABE construct tested in Hepa 1-6 cells with mRNA delivery.

Figure 14c. CBE screening identified highly active deaminases for C-to-T editing, compared to published control.



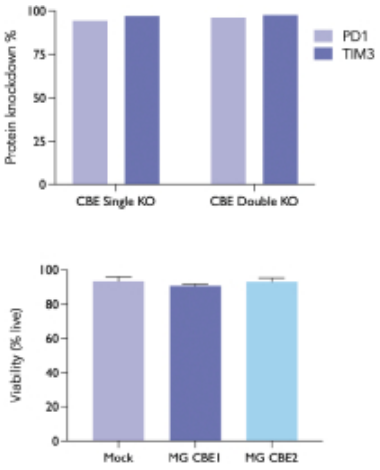
* Unoptimized CBE construct tested in HEK293T cells with plasmid delivery.
* CBE control uses hyperactive CDA A0A2K5RDN7.

Figure 14d. MG3-6 PAM chimera ABE and CBE achieved efficient editing at splice-sites for enacting therapeutically-relevant knock-out of genes in human cells.



* Top three guides shown for each target and system.
* Constructs tested in HEK293T cells with mRNA delivery for the BE along with chemically synthesized guides.

Figure 14e. MG3-6 CBEs are efficient for multiplexed knock-outs in primary human T cells with no impact on cell viability.



* Top panel shows two guides that were used to knock out two different proteins, either when edited independently or when multiplexed.
* Experiments were conducted in primary human T cells using mRNA delivery for the BE along with chemically synthesized guides.

Our base editors are highly active and progressing towards *in vivo* therapeutic applications. Both of our ABE and CBE systems have been tested in mammalian cells in order to determine editing efficiency, where a large collection of guides spanning various genomic loci were tested for each system. Figure 14 shows the development of a highly efficient and targetable base editing platform established from the MG3-6 nuclease chassis. Using PAM interacting domain engineering, the theoretical targetability of the ABE and CBE was shown to be significantly greater than that of typical base editors developed from SpCas9. Based on PAM availability the ABE was able to target over 95% of the adenine bases in the human genome, and the CBE was able to target over 50% of the cytosine bases, compared with approximately 18% and 5%, respectively, for SpCas9. Furthermore, over 95% editing efficiency was achieved with both an optimized ABE and CBE construct delivered by mRNA. Initial CBE testing without construct optimization using a less-efficient plasmid delivery approach achieved up to 58% editing efficiency, which was notable because it outperformed an industry-standard control CBE by several fold in the benchmarking experiment shown in Figure 14. We demonstrated that these efficient ABE and CBE systems could be used for creating edits that have the potential to result in protein knockdown, which could be applied for therapeutically relevant editing *in vivo*. Furthermore, we believe the observed CBE multiplexing in primary T cells shows that this platform has the potential to advance *ex vivo* cell therapy development by making it possible to efficiently knock out multiple proteins without impacting cell viability.

Our base editing platform has broad *in vivo* therapeutic potential

Figure 15. Lead ABE System Developed from Type II MG3-6 System Demonstrated High Activity in Primary Cells and in an *in vivo* Mouse Model.

Figure 15a. Our lead ABE system efficiently edited primary mouse hepatocytes at example target sites.

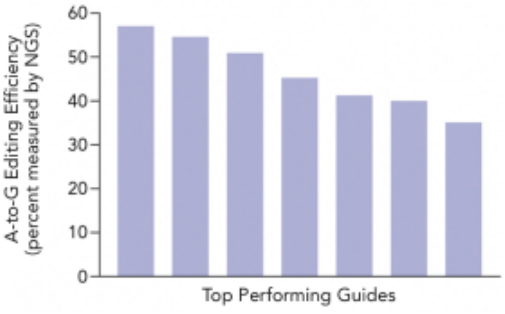
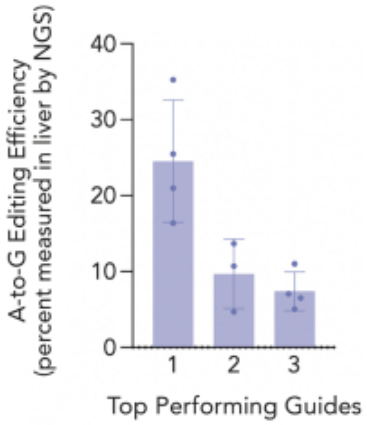


Figure 15b. Our lead ABE system demonstrated activity *in vivo* when delivered to mouse livers by mRNA and LNP.



In order to demonstrate the utility of the MG3-6 ABE platform for *in vivo* base editing, a lead construct design was tested both in primary cells and in mice. Multiple guides were tested in each study, designed to target different genomic loci. Figure 15 shows the results of these evaluations of the ABE platform, where up to 60% editing efficiency was demonstrated in primary hepatocytes and 35% efficiency was achieved across all liver cells in an initial *in vivo* study using mRNA and LNP delivery. Given that approximately 70% of liver cells are hepatocytes, and therefore targetable by the LNP platform, this editing experiment suggests that approximately 50% of all targetable cells were successfully edited. We believe this level of editing, which is comparable to other initial *in vivo* base editing studies, supports the potential to rapidly progress towards therapeutic applications. Given that both the ABE and CBE data shown in Figures 14 and 15 are based on a chimeric MG3-6 nickase, we anticipate that the broad targetability of this system will enable rapid development of multiple potential new therapeutic applications of base editing technology.

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Our SMART have been engineered to create ultra-small base editors, expanding the potential deliverability of base editing technology

Figure 16. SMART Can be Engineered into Ultra-Small Base Editors with Naturally High Editing Efficiency and AAV Compatibility.

Figure 16a. Ultra-small SMART base editors are a fraction of the size of a typical Cas9 system, enabling AAV delivery.

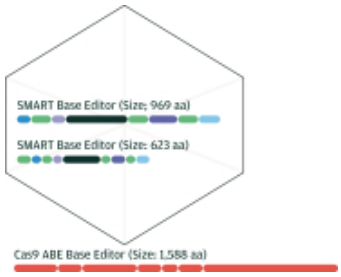


Figure 16b. SMART ABE exhibited a similar editing profile *in vitro* compared to SpCas9.

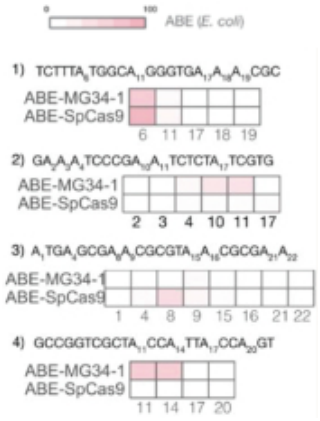
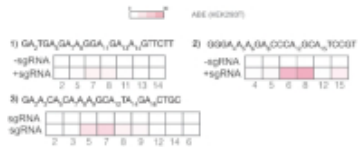


Figure 16c. SMART ABE were active in mammalian cells.



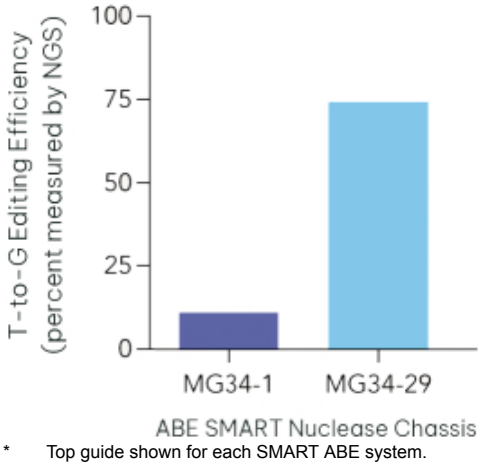
* SMART ABE-MG34-1 base editing at four genomic targets loci in *E. coli.* vs. reference SpCas9 system.
* Heatmap values represent the mean of two independent experiments.

* SMART ABE achieved up to 22% base editing efficiency in human cells.
* Base editing efficiency shown at three genomic targets tested in human HEK293T cells.
* Heatmap values represent the mean of three independent experiments.

* The target sequence for each locus is shown above the heatmap.
* Heatmaps represent the percentage of NGS reads supporting an edit at each position.

Source: Goltsman et al 2022 Nature Communications

Figure 16d. SMART ABE optimization improved editing efficiency in human cells.



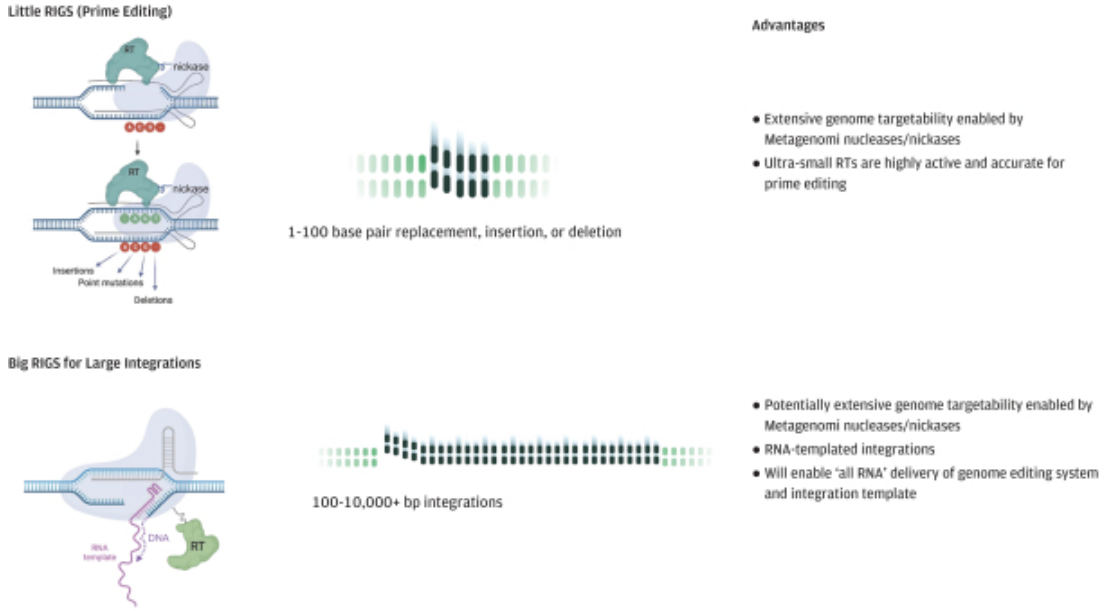
* Top guide shown for each SMART ABE system.

Figure 16 illustrates how our ultra-small SMART nucleases provide an opportunity to develop compact base editors with the potential to improve delivery using existing AAV technology. Our engineered, but unoptimized SMART ABE systems were observed to edit target loci at levels comparable to reference SpCas9 systems, and with up to 22% editing efficiency in mammalian cells. Achieving this level of efficiency with an unoptimized system, comparable to initial base editing readouts achieved with SpCas9, indicates the potential of this novel CRISPR platform. Additional optimization enabled editing in human cells at over 80% efficiency. The SMART ABE highlighted in Figure 16 is one of the smallest nickase-based systems with activity in mammalian cells (969 aa), and at 623 aa another SMART ABE under development is even smaller. Together, these systems provide us with unique opportunities to optimize base editors using the naturally compact, precise, and programmable SMART platform.

RNA-Mediated Integration Systems: RIGS for prime editing and large genomic integrations

Overview

Figure 17. Schematic Showing Application of RIGS for Small Replacements and Large Integrations.



Programmable nucleases, which use dsDNA breaks to trigger DNA repair machinery to enact specific genomic changes, and base editors, which use chemical modifications to convert specific base pairs in the human genome, cannot address all mutations that cause disease. RIGS are being developed in order to encode any type of genomic modification in an RNA template, and thus create any type of genome modification necessary to address a disease (Figure 17). RIGS involve using RTs to convert genomic corrections encoded in RNA into DNA, and are engineered with programmable nucleases or nickases to incorporate newly synthesized DNA messages into the genome at specified target sites. Importantly, any genomic modification can be encoded in the RNA template. Furthermore, the potential for having an all-RNA format for the system, including delivery of the protein components as mRNA, could simplify delivery for some applications. For example, the all-RNA format could enable use of LNPs for delivery of systems to the liver for large, targeted genomic integrations. The enzymatic nature of the genome integration, combined with the ability to deliver the entire system as RNA is of particular importance when considering large integrations, since the delivery of DNA templates at concentrations required for integration mediated by DNA repair machinery can be toxic.

One implementation of RIGS is to use our programmable nickases and RTs for prime editing. Prime editing can repair diverse mutations, including all types of point mutations, deletion mutations, insertion and duplication mutations and insertion-deletion mutations. As with other genome editing approaches, prime editing systems, and RIGS more broadly, create permanent modifications at natural genomic locations, resulting in durable edits that are passed on through cell divisions and that are expressed under natural mechanisms specific to the gene or target of interest. One key aspect of prime editing is the modification of a CRISPR gRNA to create a pegRNA (“prime editing gRNA”). In this design, the typical backbone and targeting components of the gRNA are maintained; however, additional sequence is added to the guide in order to code for a desired genomic correction and to prime a RT to begin synthesizing new DNA sequence. During prime editing a portion of the

pegRNA containing the genomic modification is copied into DNA at a specific site in the genome sequence. Once the RT has incorporated the new DNA sequence into the target site, DNA repair machinery will finalize the genome edit by removing the corresponding section of the original sequence, synthesizing any required complementary DNA, and ligating the ends of the nicked DNA strands. We have discovered a collection of novel RTs that can be combined with our nickases to perform prime editing in mammalian cells at levels and with accuracy that surpasses industry-standard systems.

Current prime editing and RNA-templated editing approaches are limited by the size of the RNA template that can be incorporated into a genomic site. This limitation is based on multiple aspects of the system design, including 1) the need to encode gRNA and RT template sequences in a single pegRNA, and 2) the processivity and fidelity of the RT. The first constraint can be addressed by creating new system designs in which the gRNA and repair template are encoded in separate RNA molecules, where additional engineering ensures that the templates and RT are able to co-localize to the nucleus, and more specifically, to targeted sites in the genome. Regarding the second point, processivity and fidelity are biochemical characteristics that relate to the ability of an RT to traverse through large and structurally complex RNA templates (processivity) and to do so without introducing errors (fidelity). We have identified and developed novel RTs that we believe surpass the processivity and fidelity requirements for therapeutic delivery of transgenes as RNA templates, for example in order to treat diseases by introducing a complete and correct copy of a gene in order to overcome a loss-of-function mutation. Furthermore, we are engineering these RTs with programmable nucleases and nickases to achieve large, targeted genomic integrations.

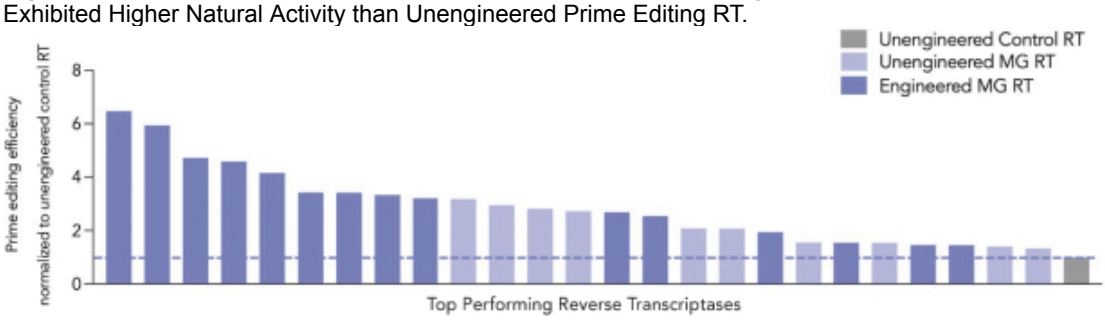
Our Approach

Similar to base editing, development of RIGS leverages our expansive platform of programmable nucleases that can be converted into nickases, including ultra-small SMART, as well as a metagenomics discovery approach that enables the rapid identification of novel RTs that have the specific characteristics necessary for different genome editing applications. The targetability of our toolbox of programmable nucleases will enable essentially any target sites of interest to be addressed, and compatibility with ultra-small SMART effectors could expand the deliverability of RIGS to therapeutically relevant tissues and organs.

Little RIGS describes systems used for prime editing (e.g., for small genomic replacements such as transversions, transitions, insertions, and deletions), while Big RIGS describes systems capable of making large targeted genomic integrations. The mechanisms driving these systems differ from one another, but both are based on using a reverse transcriptase to incorporate genomic corrections encoded in RNA into target sites in the genome identified by a programmable nickase or nuclease. We identified five million RT candidates from novel families in order to find systems for Little and Big RIGS development. RTs found in nature are highly diverse, but typically do not have all the characteristics suited towards being useful in a therapeutic context. Based on measured enzyme characteristics such as fidelity and processivity, RTs are nominated and combined with our programmable nucleases/nickases for either Little and/or Big RIGS engineering. Our Little RIGS are benchmarked against industry-standard prime editing systems in order to rapidly identify top-performing systems. Currently, we believe no genome editing system has been described that is comparable to Big RIGS. Our Big and Little RIGS are undergoing indication-specific optimization. We believe that this combination of discovery and system optimization will enable the rapid development of best genome editing systems that, together, can enact any type of genomic edit.

Our RIGS have shown complex prime editing in mammalian cells

Figure 18. Our RTs Outperformed Benchmarks for G-to-T Prime Editing in Mammalian Cells. Graph Depicts a Broad Range of RTs that Exhibited Higher Natural Activity than Unengineered Prime Editing RT.



* Unengineered prime editing control RT is from Moloney murine leukemia virus ("MMLV").

* RTs were cloned into a plasmid backbone that was co-transfected with chemically synthesized pegRNAs designed to edit the genome of human HEK293T cells.

* Genomic DNA was isolated 72 hours post transfection and target loci were amplified for NGS to evaluate editing outcomes.

Our RTs are benchmarked against natural and engineered variants of an RT widely used for prime editing in order to identify highly active natural enzymes for further optimization along with our programmable nickases. Figure 18 shows that our natural RTs are more active than a control RT when used for prime editing. In addition, our minimally engineered RTs demonstrated up to 6 times higher activity than the unengineered control RT for a G-to-T change. This indicates that we can potentially optimize gene editing activity quicker than comparable prime editing RTs. Figure 19 shows that a minimally engineered Metagenomi RT has editing efficiencies equivalent to or better than engineered, industry-standard prime editing RT. Notably, this has been achieved with an ultra-small RT that is only 251 aa in length, compared with the 671 aa of the standard prime editing RT. For therapeutic applications, complex corrections must be precise, and the precision of RIGS depends on the unique characteristics of the reverse transcriptase used. Figure 19 also shows that one of our RTs has demonstrated significantly higher editing accuracy compared to the engineered, industry-standard control. In order to measure optimal activity for new systems, multiple primer binding sequence ("PBS") lengths must be tested. In some case, Metagenomi RT are more active across a broader range and with smaller PBS lengths compared with the control, providing more flexibility around pegRNA design. We believe our RIGS are distinguished from typical systems used for prime editing by the high efficiency and accuracy of the RTs, as well as the broad targetability of our programmable nickases.

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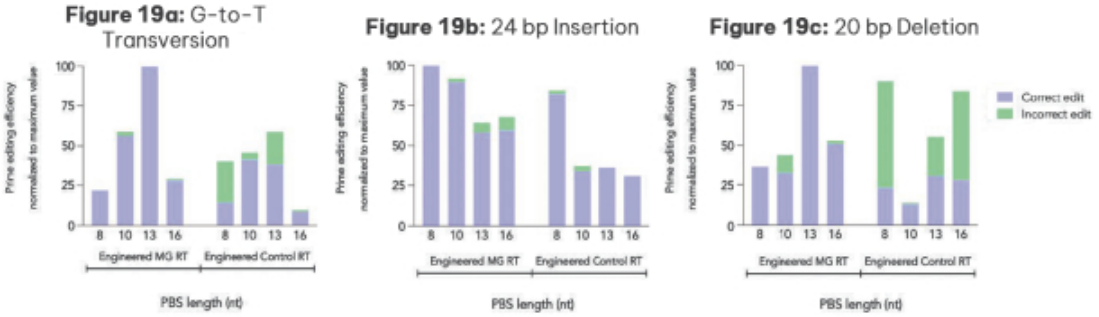
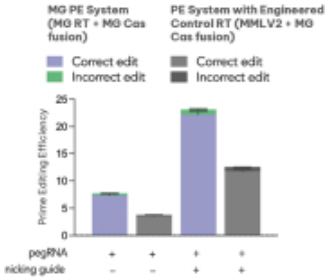
Figure 19. Our Ultra-Small RTs are Efficient and Accurate Systems for Conducting Complex Genomic Corrections in Human Cells.



* The engineered prime editing benchmark RT is the MMLV variant used in PE2 prime editing systems.
* RT were tested with an unoptimized plasmid delivery system that enables high-throughput benchmarking of novel RT to identify leads.
* Plasmids encoding RT and Cas were co-transfected with chemically synthesized pegRNAs designed to edit the genome of human HEK293T cells.
* Genomic DNA was isolated 72 hours post transfection and target loci were amplified for NGS to evaluate editing outcomes.

Figure 19d. 5 bp Replacement

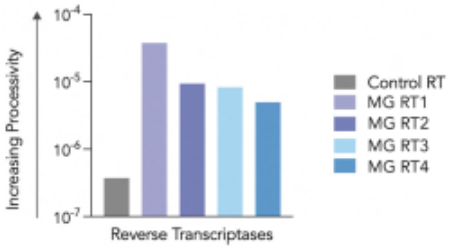


* The engineered prime editing benchmark RT is the MMLV variant used in PE2 prime editing systems.
* Our ultra-small MG RT was fused to MG Cas and tested with mRNA delivery and chemically synthesized pegRNAs designed to edit the genome of human HEK293T cells.
* Co-transfection with chemically synthesized guides designed to program the Cas to create a nick in the vicinity of the edit were included to bias DNA repair towards the edited strand.
* Genomic DNA was isolated 72 hours post transfection and target loci were amplified for NGS to evaluate editing outcomes.

Our novel RTs are selected to enable the development of Big RIGS for RNA-templated, large, targeted therapeutic transgene integration

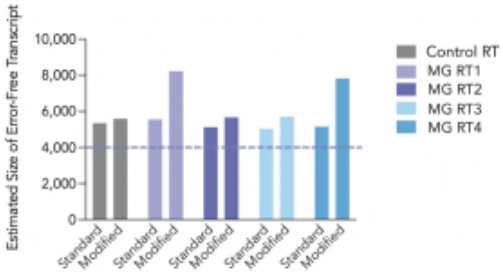
Figure 20. Our RTs Have Been Observed to be Active, Processive, and High-Fidelity.

Figure 20a. Our RTs were more processive than RT typically used for prime editing, enabling transcriptions of large gene templates in mammalian cells.



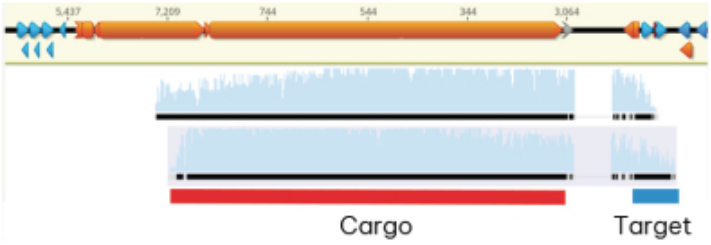
* Prime editing benchmark RT is MMLV.
* Processivity was measured by quantitative polymerase chain reaction ("qPCR") quantification of cDNA produced in mammalian cells from 4 kb templates.
* Typically, less than 1% of 4 kb templates are fully transcribed by MMLV.

Figure 20b. Our RTs were more accurate than industry-standard RT.



* Template modifications are N1-methylpseudouridine.
* Fidelity was measured by NGS.

Figure 20c. Our RT can be combined with our Cas to achieve targeted integration of >900 bp in human cells.



* Targeted integration confirmed by Sanger sequencing.
* Our MG RT was combined with MG Cas and tested using mRNA delivery along with chemically synthesized gRNA and the RNA integration template.
* Integration was targeted to an engineered landing pad located in the genome of HEK293T cells.

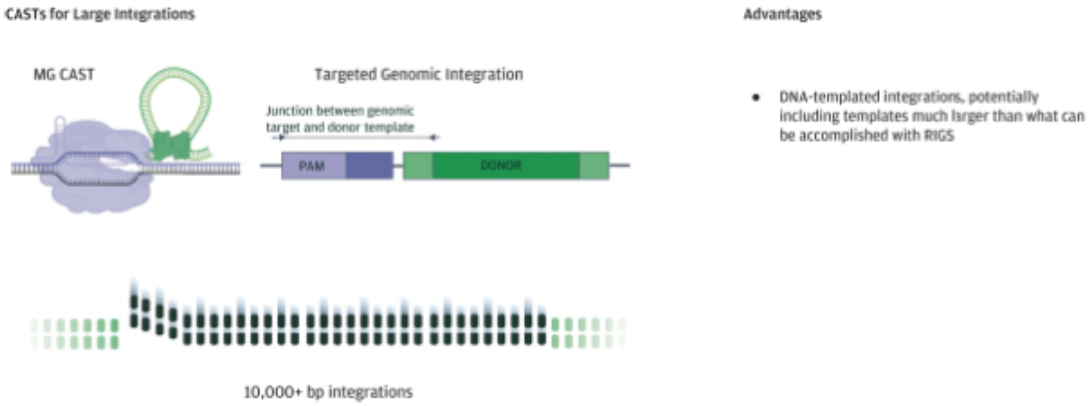
Our RTs were screened based on their activity and processivity in mammalian cells in order to identify highly active systems capable of reverse transcribing RNA templates over 4,000 base pairs in length (>4 kbp). We chose the 4 kb benchmark as many potential therapeutic targets could be addressed with a genomic integration of this size (current prime editing systems are limited to RNA-templated integration around 100 bp). In Figure 20, our best-characterized RTs were compared with industry standard systems in order to benchmark their activity, processivity, and fidelity. When tested in mammalian cells, our RTs were routinely able to fully transcribe a 4 kbp template into DNA. In Figure 20a, we show that our RTs demonstrated orders of magnitude more processivity than control RT when tested on these large templates, which we believe is a strong indication of being able to convert therapeutically relevant templates delivered as RNA into DNA for genomic integration. Importantly, Figure 20b also shows that on average our RTs transcribed over 4 kbp without introducing errors. Furthermore, template modifications (N1-methylpseudouridine), which could enable delivery of RNA templates

less likely to trigger an immune response, improved fidelity. We are engineering our RTs along with our programmable nucleases and nickases for targeted genomic integration of a donor template delivered as RNA. Initial readouts show that when combined with a CRISPR effector and targeting gRNA, Metagenomi RT are able to incorporate newly synthesized DNA from an RNA template into a target site. In Figure 20c, we report what we believe to be the first-ever targeted integration of >900 bp in human cells with all-RNA delivery. In principle, these systems, which represent a major step forward in the genome editing space, could be delivered entirely as RNA and could enable large, targeted exogenous gene integrations.

DNA-Mediated Integration Systems: CAST and other approaches to achieving large genomic integrations

Overview

Figure 21. Schematic Showing Application of CAST for Large, Targeted Genomic Integrations.



Genome editing approaches based on nucleases, base editing, and prime editing are capable of precisely modifying the genome to address disease. However, for therapeutic approaches that necessitate expression of an exogenous gene or complete gene correction, large integration approaches are needed. Many individual diseases are associated with a wide variety of genetic mutations and thus may require an entire healthy gene to counteract each of the many different underlying causes. For example, there are over 1,800 mutations in the CFTR gene associated with cystic fibrosis. While in theory most of these mutations could be addressed using distinct and mutation-specific base or prime editing systems, this would require the optimization and translation of a large number of genome editing therapies. Alternatively, integration of a complete and correct copy of the CFTR gene could potentially cure patients with varying mutations in a one-and-done treatment. Directed DNA integration has largely been considered the ultimate goal of corrective genome editing, where enzymatic systems with this capability could provide safe and sustained therapeutic protein expression. By developing DNA-mediated integration systems and RIGS, we are at the forefront of creating a new class of genome editing therapeutics.

Many efforts over the past decades have sought to achieve direct DNA integration in order to develop treatments that work across diverse tissues, cell types, and genetic variants. Established transposase and lentiviral systems are efficient at inserting large DNA cargos into the human genome but result in non-specific and sometimes hyperactive integrations that have led to severe adverse events during clinical trials. Furthermore, recombinases have gained attention recently as a possible solution, given that they are able to incorporate large (>10 kbp) genomic cargos in a non-random, site-specific manner in mammalian cells. However, these systems typically require additional genome editing tools, such as prime editing systems, in order to first install recognition sites into the genome. These recognition sites are required by the recombinase and thus control where the enzyme can incorporate new genomic material.

CASTs are a new technology that is exciting because of their programmable, site-specific, and enzymatic integration capabilities. While these systems have been challenging to translate for mammalian cell and human therapeutic applications, we have had recent breakthrough success by demonstrating that the most compact type of CAST, based on catalytically dead nucleases, are capable of programmable and targeted DNA integration into the genome of human cells. Our CASTs are being developed in order to enable large (>10 kbp), targeted genomic integrations for therapeutic applications. This technology has the potential to address a large collection of complex genetic diseases driven by a loss of function mutation, such as cystic fibrosis.

Our Approach

We are pursuing multiple approaches to achieve targeted, large genomic integrations, including both RNA and DNA templated systems. Unlike RNA-templated systems that undergo a copying mechanism in order to integrate into the genome, DNA templated systems orchestrate the direct mobilization of the template into the genome. This direct integration avoids copying mechanisms that may be inhibited by certain template features, and thus allows for the incorporation of much larger templates compared with RNA-mediated systems. Given that RNA-templated systems may have delivery advantages for some applications, we are developing both technologies to have the broadest potential to address diseases through targeted integration of large transgenes.

The development of our novel CAST systems was made possible by the discovery and engineering of active natural variants from our metagenomic library. CASTs are being developed to achieve accurate and efficient integration of large DNA cargos at a target locus, without depending on dsDNA breaks. CASTs are unique in that they combine the programmability of a CRISPR effector with the enzymatic integration capability of a transposase. We hypothesized that activity in human cells could be accomplished by combining novel system discovery with systematic development designed to tune the systems to the mammalian nuclear environment. We conducted a detailed survey of newly-discovered CAST systems and demonstrated the ability of novel systems for programmable integration of a transgene *in vitro* and in *E. coli*. The high efficiency of our systems enabled us to demonstrate directed transposase activity into single copy, safe harbor loci in the genome of human cells, as shown in Figure 21. Our results will enable the rapid development and optimization of CASTs to address unmet therapeutic and biotechnological needs. We believe we are the first to achieve this milestone using the most compact variety of CASTs.

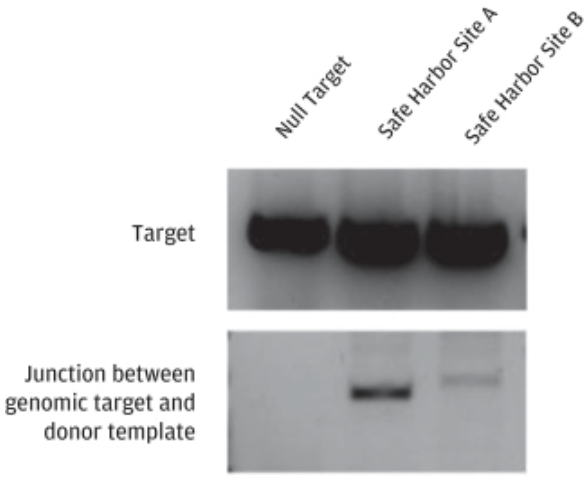
We are also developing systems based on recombinases and other mobile elements that can be used in combination with programmable nucleases, including catalytically dead variants, as well as with Little RIGS in order to affect large, targeted genomic integrations under circumstances where CASTs are not the ideal genome editing technology. Beyond therapeutic use, novel systems with these capabilities could enable synthetic biology, antibody discovery, functional genomics, animal model development, and various other unmet needs in the biotechnology space.

Our novel and engineered CASTs are capable of integrating large DNA cargo at a safe-harbor locus in the human genome

We have shown preclinical proof-of-capability for our CASTs by demonstrating targeted integration of a large DNA template in the genome of mammalian cells. Translation from bacteria to human cell editing required protein engineering to mitigate the complex coordination between multiple protein and nucleotide components. Figure 22 shows polymerase chain reaction (“PCR”)-based confirmation achieved by detecting the junction between the donor DNA template and the target sequence in the genome of HEK293T cells. Targeted integration was achieved by delivering the CAST system as an all-in-one plasmid, while the DNA donor is delivered on a second plasmid. In addition, NGS was used to both confirm and quantify integration efficiency, which showed that about 1.5% of sequencing reads had evidence of target-specific integration. We believe the ability to target payloads to a single copy, safe-harbor locus now allows for further therapeutic-driven optimization and development.

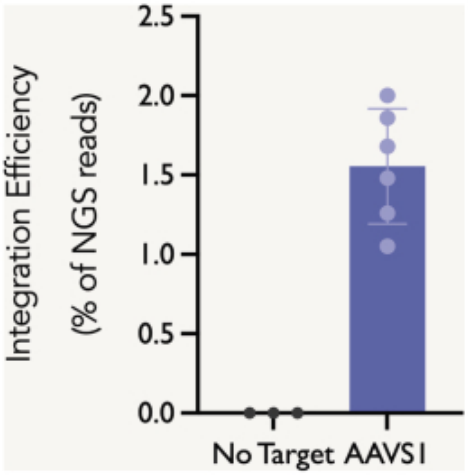
Figure 22. Our CASTs Demonstrated Targeted Integration of a DNA Template at a Safe-harbor Locus in the Genome of Human Cells.

Figure 22a. Targeted integration confirmed by PCR.



* PCR of junction between template and target confirms integration at target loci in HEK293T cells.
* Successful transposition is indicated by a band of the correct size in the gel in treated samples, but not in the null target (control) sample.
* Sequencing of PCR products from the junction between the template and target confirmed integration.

Figure 22b. Integration efficiency measured by NGS.



* On-target integration efficiency measured by NGS sequencing.
* Quantified integration efficiencies are shown as the mean (bar) of six AAVS1 or three “No Target” biological replicates (dots) with one standard deviation (whisker). “No Target” represents the non-targeting spacer (negative control), AAVS1 is the targeted safe-harbor locus.

Future Novel Editing System Discoveries

Our scientific underpinnings based in metagenomics provides a continuous engine for discovering and developing potentially next generation genome editing systems. As we continue to build upon our metagenomic library, we expect to make additional discoveries of novel technology, and expand our toolbox to further unlock the field of genome editing.

Our Pipeline

We are taking a stepwise approach deploying our genome editing toolbox to develop potentially curative therapies for patients. Our lead programs are selected to both address important diseases and to establish new standards in targetability, precision, efficiency, and scope of editing capabilities. Figure 23 summarizes the portfolio of programs that we and our partners are advancing, as we aim to match the optimal genome editing tools for each indication. Each of these indications were chosen based on our conviction in the underlying biology, existence of validating preclinical and clinical data, availability of pharmacodynamic and translational tools to assess early proof-of-concept, relevant value-supporting outcome measures, and ongoing clinical unmet need. Our lead programs capture an ever-growing set of translational learnings and insights that will inform and accelerate future programs.

Figure 23. Therapeutic Translation.

Hemophilia A—novel, durable, knock-in approach for expression of Factor VIII

The Disease

Hemophilia A is the most common X-linked inherited bleeding disorder and is caused by mutations in the FVIII gene leading to loss of functional FVIII protein that impacts the body's ability to form normal clots in response to injury. FVIII is normally produced in the liver within sinusoidal endothelial cells and is then secreted into the bloodstream where it acts as a cofactor for the catalytic activation of Factor X in the clotting pathway. The lack of functional FVIII disrupts the normal clotting cascade and predisposes patients to increased risk of bleeding, either spontaneously or in response to injury or surgery. Repeated bleeding episodes in joints or soft tissues can lead to progressive joint damage, inflammation, pain, and mobility impairment. Intracranial bleeding is of greatest concern as this can be rapidly fatal or lead to major morbidity.

The severity of hemophilia A is directly correlated to the amount of residual FVIII activity. Severe hemophilia is defined as less than 1% of normal FVIII activity, moderate hemophilia defined as 1-5% of normal FVIII activity and mild hemophilia defined as 5 to 40% of normal FVIII activity. There are estimated to be nearly 30,000 patients with hemophilia A in the United States and more than 500,000 patients with hemophilia A globally. Of these, approximately 60% have severe disease and are at the greatest risk of spontaneous life-threatening bleeding events. In these patients, diagnosis typically occurs in infancy due to exaggerated bleeding in response to minor injury or routine medical procedures. As the inheritance of hemophilia A is X-linked, the vast majority of patients are male.

Limitations of Current Approaches

The standard of care for patients with severe hemophilia A involves life-long repeated IV infusions of recombinant FVIII preparations prophylactically and in response to bleeding events. The major limitation of this approach is fluctuating FVIII activity levels, with trough values that can still result in breakthrough microscopic and macroscopic bleeding events, particularly within sensitive and previously damaged joints. Additionally, frequent FVIII infusions are inconvenient, which can be associated with suboptimal compliance, and in some patients result in inhibitor formation (antibodies against FVIII) that compromise efficacy. More recently, emicizumab, a bispecific antibody, has been approved for hemophilia A in the United States that acts as functional FVIII mimetic in binding Factors IXa and X to support catalytic activation. This antibody approach has the benefit of a longer half-life than typical recombinant FVIII protein infusions that allows for less frequent administration but has the drawback of not being a true FVIII protein replacement therapy and breakthrough bleeding has been reported. Both the bispecific antibody and FVIII protein replacement approaches have a high economic burden (estimated lifetime cost of $15 to 18 million per patient).

Valoctocogene roxaparvovec, the first hemophilia A gene therapy, was conditionally approved for use in Europe in August 2022 and was approved in the United States in June 2023. This genetic medicine delivers a FVIII gene construct to the liver using an AAV vector. Once transduction of liver cells occurs, the FVIII gene resides in an episomal state (meaning not integrated in the genome) where it is transcribed from an artificial engineered exogenous promoter to produce FVIII mRNA which is translated into FVIII protein. This gene therapy approach has the potential benefit of constant production of FVIII protein by the liver; however, longitudinal clinical data has demonstrated that FVIII levels drop over time. To date, repeat dosing of a gene therapy has not been possible due to the production of high titers of neutralizing antibodies to the AAV vector. Importantly, AAV gene therapy is also not a feasible treatment approach for infants or children due to the high degree of liver growth during pre-adulthood that would dilute out the episomal FVIII gene during progressive rounds of liver cell division. Thus, there continues to be a significant unmet need in hemophilia A for a curative therapy that can provide life-long protection from bleeding events and joint damage in adults and children.

Our Approach and Results

Experience with early hemophilia A gene therapy approaches suggest that morbidity and mortality from the disease can be markedly reduced by achieving only moderate amounts of stable FVIII expression. For instance, achieving stable FVIII activity above 5-10% of normal activity level has the potential to convert a patient with severe hemophilia at risk of catastrophic bleeding into a patient only at risk for bleeding in the setting of major trauma or surgery. Achieving stable levels of FVIII above 15% activity level could provide complete joint protection and may allow patients to have a functional cure from their disease.

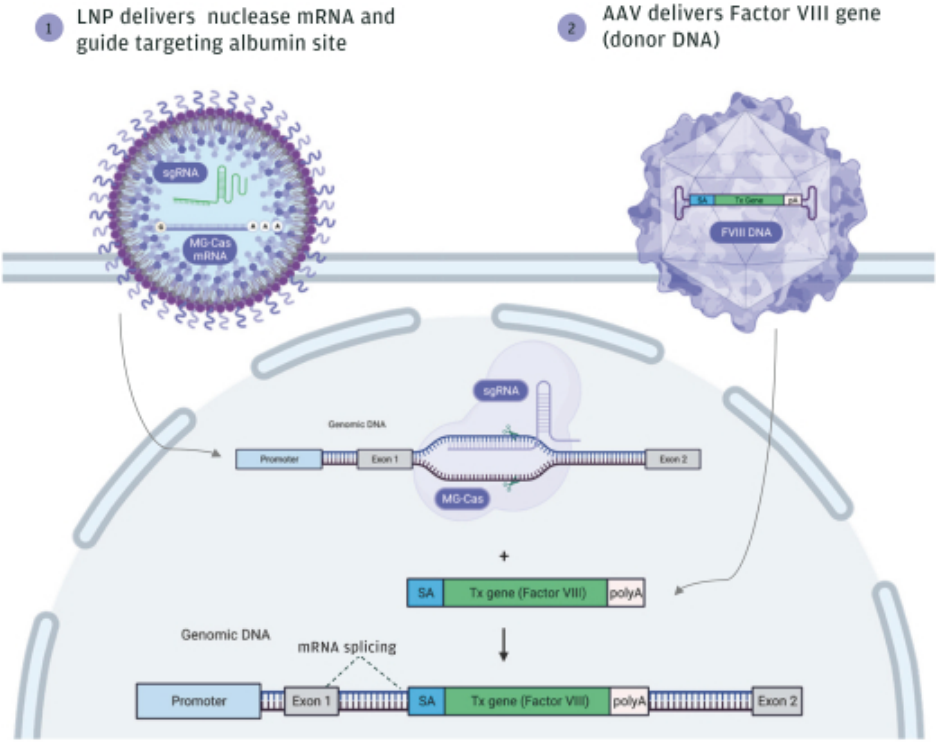
Rather than provide the FVIII gene in an episomal location, which risks dilution from cell division or cell death as well as episomal transcriptional silencing, our approach is to insert a FVIII DNA cassette into a “safe harbor location,” within an intron of the albumin gene that is not expected to have deleterious effects. FVIII expression is then driven by the strong native albumin promoter. This approach has previously been demonstrated in

preclinical studies to lead to therapeutically relevant expression of a different clotting factor (Factor IX) with negligible impact to systemic circulating albumin levels. Our FVIII knock-in approach is designed to provide stable expression and clinically relevant circulating levels of FVIII, even at low integration rates because of the strength of the albumin promoter.

Our approach is fundamentally different from the AAV gene therapy approaches. AAV gene therapy approaches use a viral vector to deliver a replacement FVIII gene driven off a non-natural promoter that exists in an episomal state (not integrated in the genome). This AAV FVIII gene therapy approach has been associated with the loss of FVIII expression over time in patients, a phenomenon hypothesized to be due to a combination of loss of the DNA encoding the FVIII gene (due to liver cell replication) and silencing of the episomal FVIII expression. Because our approach is designed to permanently integrate the FVIII gene into the genome of the patient, the FVIII gene should not be lost from the liver when the liver cells divide (because it is integrated in the genome and therefore transferred to the daughter cells during cell division), which may allow for a therapeutic option for children with hemophilia. Silencing of expression may be less likely to occur with our approach because we are using an endogenous albumin promoter rather than a synthetically designed promoter in a non-natural episomal state.

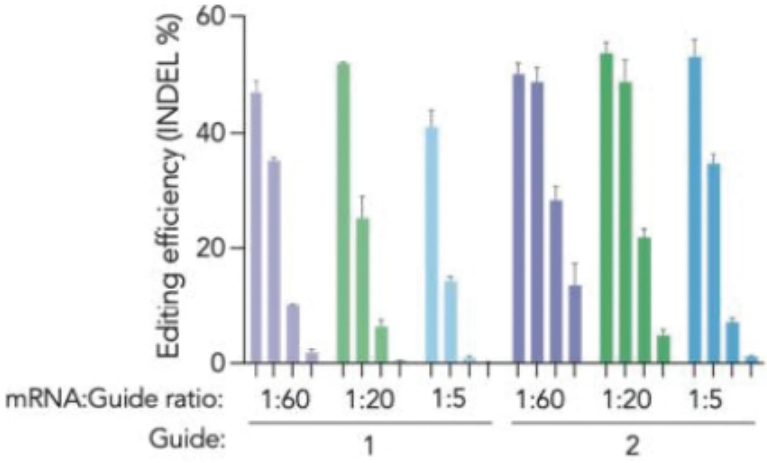
As shown in Figure 24, our hemophilia A genome editing program has two components: a LNP component that is designed to deliver mRNA along with a gRNA to the liver to produce a highly efficient and specific nuclease to create a precise cut at the albumin safe harbor gene locus; and an AAV vector that is designed to deliver the donor template FVIII DNA that becomes inserted into the nuclease cut site by the naturally occurring DNA repair process called non-homologous end joining. The DNA template encodes a FVIII protein, and the sequence has been optimized to improve expression. In both preclinical mouse and NHP models we have demonstrated that this FVIII knock-in approach leads to stable integration and clinically relevant circulating levels of FVIII.

Figure 24. Therapeutic Approach to Hemophilia A Genome Editing.



We have performed gRNA screening in human and mouse cells to identify both candidate clinical guides and mouse surrogate guides. In the case of the human guide screen, a total of 77 guides for three of our nucleases were screened against albumin intron 1 in liver cell lines, and two guides (called guide 1 and guide 2) were selected as leads. Primary human hepatocytes ("PHH") isolated from the livers of deceased individuals are the most appropriate preclinical model to evaluate human liver genome editing. Guide 1 and guide 2 displayed dose dependent editing in PHH with guide 2 exhibiting the highest potency (Figure 25).

Figure 25. Editing at the Human Albumin Locus by Lead Nuclease and Guides in Primary Human Hepatocytes. Each Set of Four Bars is a Dose Response (from High Dose to Low Dose Going from Left to Right) Performed at Three Different Molar Ratios of mRNA to gRNA.



* Each set of four bars is a dose response (from high dose to low dose going from left to right) performed at three different molar ratios of mRNA to gRNA.

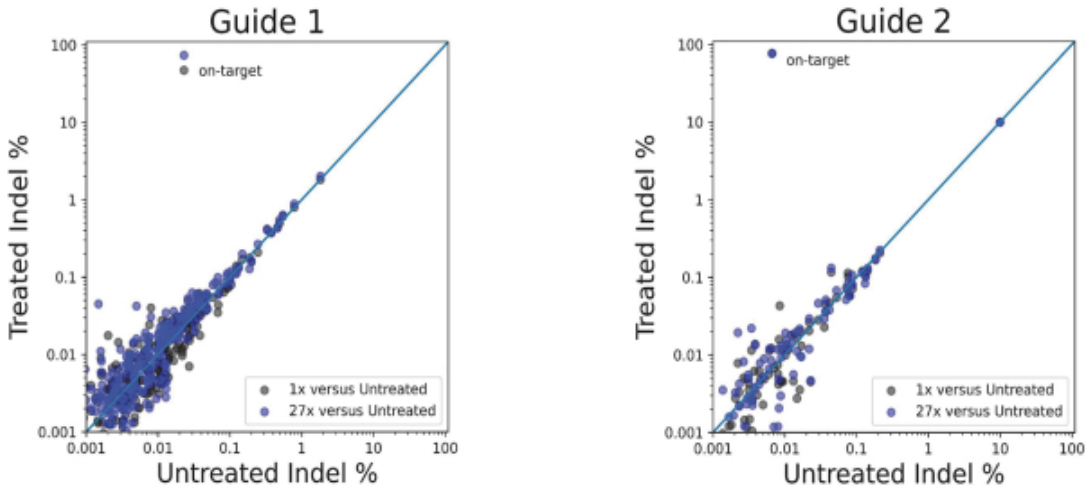
Genome editing nucleases can edit at sites other than the intended target site, an activity that is dependent on the specific nuclease and guide. Editing at non-target sites (called off-target editing) is undesirable due to the potential to cause damage to the host cell DNA (sometimes called "genotoxicity"). In accordance with recent FDA guidelines and insights from the FDA workshop we have applied a combination of 3 methods; in-cell oligo integration in PHH, a biochemical assay, and in silico prediction (using an algorithm called CRISPRitz) to identify potential off-target sites for our two lead guides. These combined methods nominated a total of 372 potential off-target sites for guide 1 and 113 potential off-target sites for guide 2. Editing at these potential off-target sites was then evaluated in PHH by amplicon sequencing in which a pair of PCR primers flanking each predicted off-target site is used to PCR amplify that site followed by next generation sequencing. To efficiently analyze all of the potential off-target sites, sets of barcoded PCR primers to multiple sites are carefully designed and combined in a single PCR amplification (a methodology called rhAMP-Seq). Any sites that failed to be detected from the rhAMP-Seq panels were re-tested as single amplicons. The sequence data was analyzed using the CRISPResso software to quantify InDels in each of the amplicons representing the potential off-target sites. The sensitivity of this method is high because of the depth of sequencing reads that can be readily achieved, typically enabling detection of InDels at frequencies as low as 0.1% (i.e. 1 InDel in 1,000 sequencing reads). Because double strand breaks can occur naturally in cells and because of sequence specific background signals arising from PCR primer slippage we compared the InDel rates in PHH edited at a dose that results in saturating editing (1x dose) and at a 27-fold higher dose (27x dose) to the InDel rate in un-edited PHH. We used LNP to deliver the MG29-1 mRNA and gRNA to mimic in vivo delivery and because it provided high editing efficiency and low toxicity. We believe the cells edited with the dose 27-fold higher than that which results in saturating

editing provides an additional safety margin for the detection of off-target editing that may occur at undetectable frequencies at saturating doses but is detectable at a higher dose. The InDel frequencies of the potential off-target sites were plotted as a scatter plot (Figure 26). InDel frequencies that are the same in the edited and unedited cells lie on the diagonal axis of Figure 26. Sites that have a higher InDel frequency in the edited cells than in the un-edited cells and thus represent a true off-target edit will appear as a point significantly above the diagonal axis of Figure 26. In addition, real off-target sites will have InDel frequencies higher than the lower limit of detection of the assay of 0.1%. Only the on-target site lies above the diagonal axis of the scatter plot in Figure 26 having a InDel rate in both 1x and 27x treated cells of 60% to 90% and an InDel rate in untreated cells of 0.01 to 0.05%. No editing significantly above the signal in the control cells was detected at any of the off-target sites for either guide 1 or guide 2. The InDel frequency for the majority of potential off-target sites was below 0.05% which is below the limit of detection of 0.1%. The small number of potential off-target sites with InDel frequencies above 0.1% had near identical InDel rates in both treated and un-treated cells indicating that they are not a result of the gene editing but are likely due to either natural hot spots of DNA damage or primer slippage during PCR amplification.

In summary, no editing was detectable at any of the potential off-target sites for the lead albumin targeting guides in the most relevant human cell, primary human hepatocytes, including at a super saturating dose that is 27-fold higher than that required for saturating editing.

We are expanding the number of potential off-target sites to be evaluated by amplicon sequencing by including sites from in silico prediction with a wider cutoff (more mismatches) as well as from a variant aware version of in silico prediction called CRISPRme that evaluates the impact of naturally occurring sequence variation within the human population on predicted off-target sites.

Figure 26: Measurement of editing at potential off-target sites for the two lead guides for Hemophilia A in PHH using amplicon sequencing.



* 372 and 113 sites were nominated and evaluated for guide 1 and guide 2, respectively at both a 1x and a 27x saturating dose. For each potential off-target site as well as the on-target site, the InDel frequency was plotted for 1x compared to untreated (black points) and for 27x compared to untreated (blue points). For Guide 2 the on-target site for 1x vs untreated (black dot) and 27x vs untreated (blue dot) overlap and so appear as only a blue dot.

We have demonstrated the feasibility of the human FVIII gene knock-in approach in mice with a mouse specific guide and 11 different FVIII DNA donor cassettes as shown in Figure 27, which shows the human FVIII protein levels achieved in the blood at day 10 post LNP dosing. A FVIII level of 1 IU/ml is equivalent to 100% of the normal level of FVIII in humans. FVIII levels ranged from 0.02 IU/ml (2% of normal) to 0.75 IU/ml (75% of normal). Seven of the 11 FVIII donor designs achieved human FVIII levels at or above 15% of normal, a level that would be sufficient to prevent the majority of bleeding events in hemophilia patients. We quantified integration of the FVIII gene in the liver in the correct (forward) orientation at the target site in the albumin locus in selected groups of mice at the end of the study (day 14 post LNP). The mean forward integration frequency in these groups was between approximately 0.5% and 2.5% (meaning approximately 0.5 to 2.5 copies per 100 mouse genomes, Figure 28). The finding that different human FVIII donor designs resulted in a range of FVIII levels in the blood of mice despite similar levels of integration implicate the donor DNA design as a critical component to maximize FVIII protein expression and these learnings are being incorporated into FVIII donor designs that will be evaluated in NHP studies to enable final development candidate selection.

Figure 27. Expression of FVIII in Mice after Genome Editing.

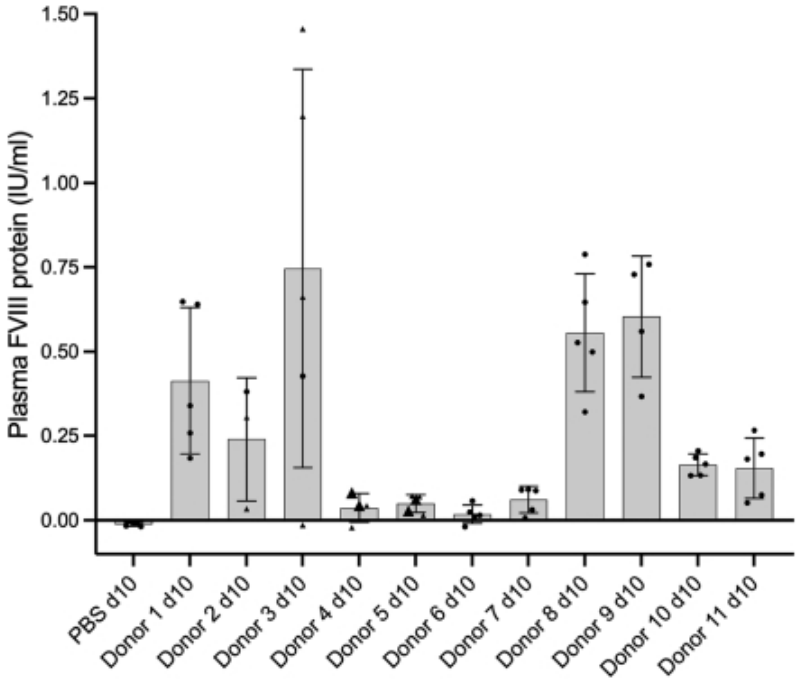
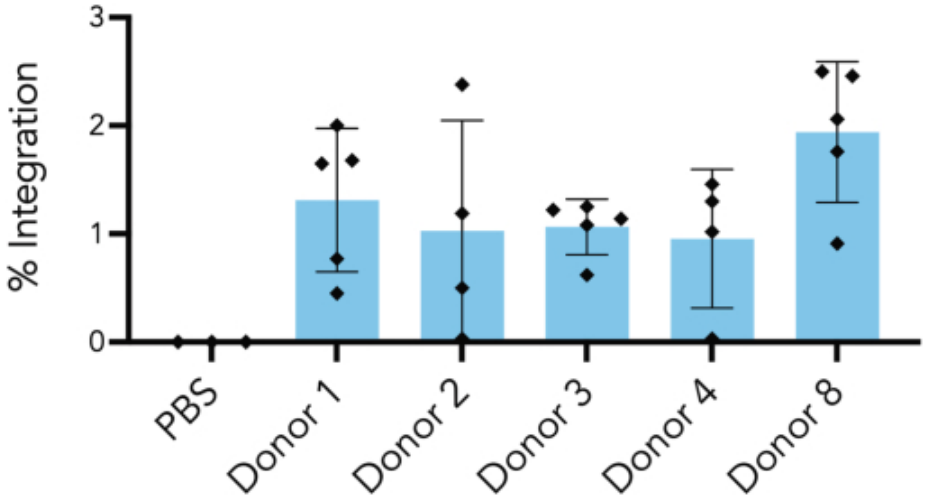


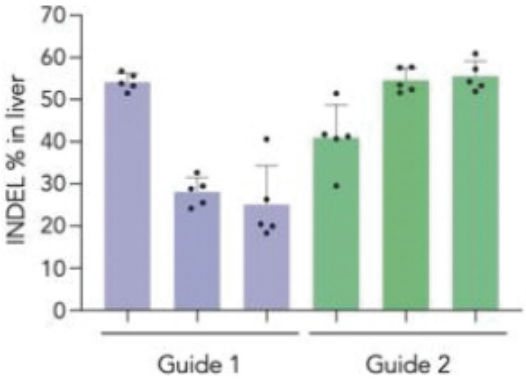
Figure 28. Integration of FVIII in Mice after genome editing.



* Results are from a subset of the groups of Mice in Figure 27 (Integration was only measured for selected donors for technical reasons).

The editing efficiency of the two lead gRNA sequences (guide 1 and guide 2) were evaluated in non-human primates ("NHPs"). Guide 1 is a perfect match to the target sequence in the NHP genome while guide 2 required a single nucleotide change in the spacer to match perfectly to the target sequence in NHPs. The same nuclease mRNA sequence was used with both guides and the guide and mRNA were co-delivered with the same LNP formulation by IV infusion of three cynomolgus macaques per group at a dose of 1.25 mg RNA per kg body weight. The editing efficiency in five different regions of the liver (representing the different liver lobes) were measured by determining the InDels at the target site using next generation sequencing in each of the three animals per treatment group as shown in Figure 29. Editing levels were similar across the five liver regions (represented by the five dots in each bar) demonstrating that editing was homogenous across the entire liver. Guide 2 resulted in a mean editing efficiency of 50% amongst the three animals. This represents editing in approximately 80% of hepatocytes because hepatocytes make up about 60% of the cells in the liver of NHPs and the LNP delivers primarily to hepatocytes.

Figure 29. Efficient Editing in NHPs at the Safe Harbor Locus for the Hemophilia A Program.



* Each bar is an animal and each datapoint represents a different lobe of the liver.

To evaluate our FVIII gene integration approach in a more relevant preclinical species we performed combined AAV-FVIII and LNP dosing in three NHP (cynomolgus macaques). The monkeys were pre-screened for neutralizing antibodies ("NaB") against AAV and only animals with a titre of less than 1:5 (meaning that no Nab were detected at a 1:5 fold dilution of the monkey plasma) were selected for the study. The target site in albumin intron 1 was sequenced from each animal to confirm the absence of sequence differences that might otherwise impact recognition by the gRNA. Plasma was collected prior to dosing to provide a baseline for the FVIII activity assay. A small amount of liver tissue was collected by biopsy two weeks prior to dosing to provide a baseline for the measurement of FVIII mRNA in the liver. The three animals were given a single dose of the anti-inflammatory drug dexamethasone (2 mg/kg) prior to AAV dosing and again prior to LNP dosing. It is well known that human FVIII is immunogenic in monkeys resulting in generation of anti-human-FVIII antibodies (typically within weeks to months of exposure) which prevents the detection of the human FVIII protein. A cellular immune response against human FVIII is also likely to occur in monkeys which may result in the destruction of liver cells expressing the human FVIII. We therefore used the cynomolgus FVIII gene in the AAV construct to ensure that the monkeys would not have an immune response against the FVIII protein expressed from the integrated FVIII gene and thereby enable a long term evaluation of the durability of FVIII expression. The AAV construct was designed with a codon optimized B-domain deleted cynomolgus FVIII (cFVIII) coding sequence with a single amino acid change that had no observed impact on the function of the cFVIII protein but enables the specific detection of the AAV encoded cFVIII protein in the background of the endogenous cFVIII protein. All three monkeys received a single dose of the AAV-cFVIII virus followed five weeks later by a liver trophic LNP encapsulating the mRNA encoding MG29-1 and guide 2 at a dose of 1 mg/kg body weight. Plasma was collected either weekly or bi-weekly starting at 14 days post LNP dosing and assayed for the vector derived cFVIII using a commercial activity assay (chromogenic assay). As of the November 11, 2023 data cutoff date, we have collected and assayed cFVIII activity up to day 126 post LNP (18 weeks, 4.5 months) and results are shown in Table 1. The plasma for each post-LNP time point was assayed multiple times (between 5 and 7 times) and the mean value and standard deviation were calculated. Plasma collected prior to dosing (day -14, n=3 replicates) had no detectable cFVIII using this assay, demonstrating that the assay method does not detect endogenous cFVIII. The mean FVIII activity derived from the administered c-FVIII gene over the time period from day 14 to 126 was 0.75 IU/ml, 0.13 IU/ml and 0.29 IU/ml in the 3 animals which corresponds to 75%, 13%, and 29% of normal FVIII activity in humans. These average levels of FVIII are within the desirable therapeutic range (approximately 10% to 150% of normal).

Samples of liver tissue were collected on day 7 and day 70 post LNP dosing by biopsy of all three NHP. The day 7 liver biopsy was analyzed for editing at the target site in albumin intron by NGS which revealed that the cleavage by MG29-1 was efficient and consistent, with InDel frequencies of 45%, 50%, and 55% in the 3 animals, similar to what was observed in our earlier editing only study in NHP with the same guide 2 (Figure 29). Integration of the cFVIII gene encoded in the AAV at the target site in albumin intron 1 was quantified by a digital droplet PCR assay that specifically detects the junction between the albumin intron 1 sequence at the target site and the 5' end of the AAV encoded cFVIII gene. Integration was detected in all 3 animals and the integration frequency ranged from 0.7 to 2.9 copies per 100 genomes, similar to the frequency observed in mice.

The specific albumin-cFVIII hybrid mRNA that is generated by the precise splicing between albumin exon 1 and the 5' end of the integrated cFVIII gene derived from the AAV was quantified in liver tissue from the day 7 and day 70 biopsies as well as the pre-dose biopsy using a digital droplet PCR assay. No signal was detected in the liver tissue from the pre-dose biopsy as expected, demonstrating that this assay does not detect endogenous cFVIII mRNA. The specific albumin-cFVIII hybrid mRNA was clearly detected in all three animals at both the day 7 and day 70 timepoints with no significant change in the mRNA level between day 7 and day 70. The mean of the albumin-cFVIII hybrid mRNA levels at day 7 and day 70 post LNP dose were 177, 79, and 131 in the 3

animals (the units are percentage of an endogenous control mRNA that was quantified in the same samples). The integration frequency and the hybrid albumin-cFVIII mRNA levels correlated with the plasma FVIII activity. The data in Table 1 provides important proof of concept for our gene editing approach in a relevant NHP model. We intend to continue this study up to 12 months with continued measurement of FVIII activity to evaluate the durability of FVIII expression from the integrated cFVIII gene.

Table 1. cFVIII donor integration frequency, FVIII mRNA level and Mean FVIII activity level in NHPs.

Animal ID	Editing in the liver (InDel %)[1]	FVIII gene integration frequency (copies per 100 genomes)[2]	FVIII mRNA (% of endogenous control mRNA)[3]	Mean FVIII activity % of normal (d14 to d126)[4]
1001	45%	2.9	177	75 +/- 9
1002	50%	0.7	79	13 +/- 4
1003	55%	1.4	131	29 +/- 5

Table footnotes: (1) InDelS at the on-target site in albumin intron 1 were measured by NGS in a liver biopsy taken at day 7 post LNP dosing. (2) The FVIII donor gene integration frequency in the forward orientation was quantified by droplet digital PCR analysis of the liver biopsy at day 7 post LNP and is normalized to an endogenous single copy gene. (3) FVIII mRNA was quantified with a digital droplet PCR assay specific for the hybrid mRNA created by correct splicing between albumin exon 1 and the 5' end of the FVIII gene and is the average of the levels in the liver biopsy at day 7 and day 70 post LNP dosing and is normalized to the levels of an endogenous mRNA. (4) The mean of the FVIII activity in IU/ml measured at each time point between day 14 and day 126 was calculated and converted to the percentage of normal by multiplying by 100 (1 IU/ml is approximately 100% FVIII activity in a healthy human being).

No safety signals of concern were observed during this NHP study as of the November 11, 2023 cut-off date. A comprehensive set of safety markers were measured in the blood of the monkeys after both AAV and LNP dosing. These included assays for coagulation, serum chemistry and hematology as well as liver enzymes (transaminases and bilirubin levels) and a panel of 10 cytokines. We observed mild and transient elevations of alanine aminotransferases ("ALT") and aspartate aminotransferase ("AST") and no significant change in total bilirubin post AAV and post LNP (Figure 30). Importantly we observed no changes in serum albumin levels over the course of the study demonstrating that the high level of editing in albumin intron 1 (mean 48% InDels which converts to approximately 78% of hepatocytes) did not alter expression of the albumin protein. Three cytokines (IL-6, MCP-1 and IL-12/IL-23) exhibited mild and transient increases in the blood post AAV and post LNP. The data for IL-6 is shown in Figure 31. As of the data cut-off date, all three animals in the study remained healthy, without notable clinical observations, and continued to gain weight as expected.

Figure 30a: ALT, AST, and total bilirubin levels in the blood of NHP up to day 8 after AAV dosing in the integration study.

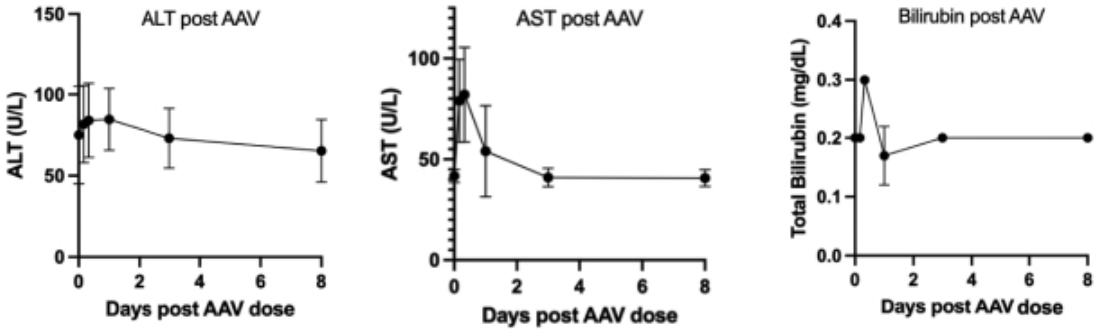


Figure 30b: ALT and AST levels in the blood of NHP up to day 10 after LNP dosing in the integration study.

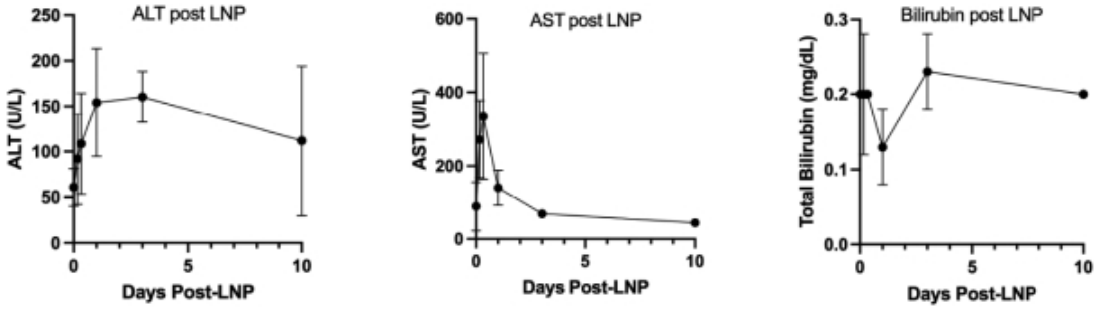


Figure 30c: ALT, AST and total bilirubin levels in the blood of NHP throughout the study to the data cut-off date.

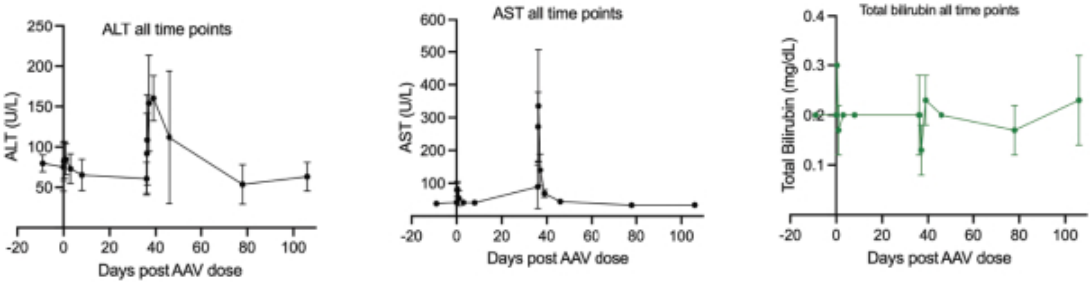


Figure 30: Albumin levels in the blood of the 3 NHP after AAV and LNP dosing in the integration study.

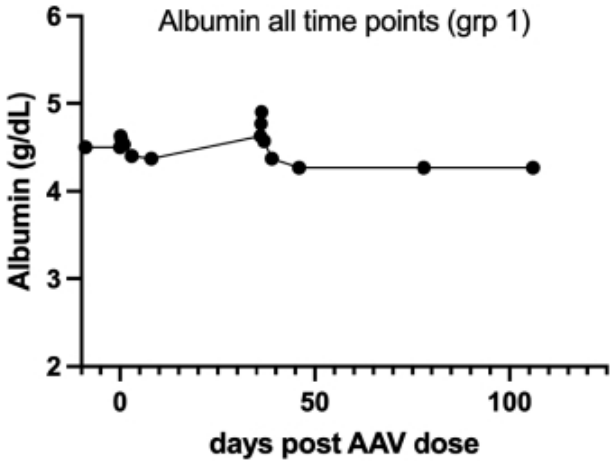


Figure 31: Levels of the cytokine IL-6 in the blood of the 3 NHP in the integration study post AAV dosing and post LNP dosing.

Figure 31a: Levels of the cytokine IL-6 in the blood of the 3 NHP in the integration study post AAV dosing.

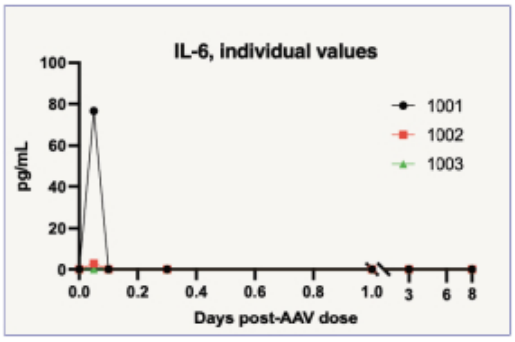
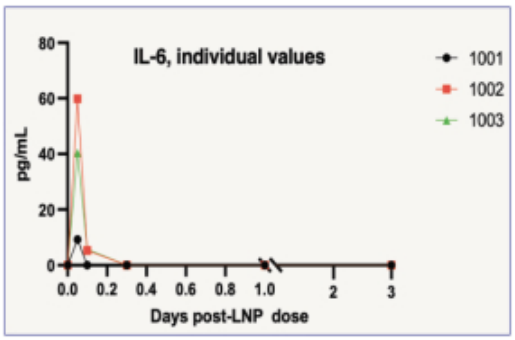


Figure 31b: Levels of the cytokine IL-6 in the blood of the 3 NHP in the integration study post LNP dosing.



Next Steps

We have selected two human FVIII donor DNA cassette designs, and are in the process of producing the AAV, mRNA and gRNA to perform a second NHP integration study to select a single donor and guide and expect to nominate a development candidate by Q2 2024. In parallel, we are initiating GxP manufacturing of mRNA, gRNA, AAV and LNP to support future IND-enabling studies. The progress we have made on this program not only validates the efficiency and specificity of our novel nucleases in rodent and NHP models, but also supports our ongoing efforts with other large gene integration approaches.

Primary Hyperoxaluria, Type 1—a durable knockdown of HAO1 for substrate reduction therapy

The Disease

PH1 is a rare autosomal recessive metabolic disease arising from loss of function mutations in the AGXT gene that encodes alanine glyoxylate aminotransferase. This enzyme is found in peroxisomes of the liver where it catalyzes the conversion of glyoxylate to glycine and pyruvate. Lack of functional AGXT leads to an accumulation of glyoxylate substrate, which is then converted to oxalate and excreted in the kidney. The excess urinary oxalate forms an insoluble complex with urinary calcium that leads to the production of calcium oxalate crystal precipitates. This pathologic process results in the formation of repeated calcium oxalate urolithiasis and nephrolithiasis, which in turn leads to obstructive uropathy, inflammation, fibrosis, tubular toxicity, and progressive loss of kidney function.

PH1 is a serious disease that causes kidney failure. More than 70% of individuals with PH1 mutations will develop end-stage renal disease, with a median age in young adulthood. Patients with PH1 continue to experience morbidity and mortality even after the development of end-stage renal disease due to progressive

systemic calcium oxalate precipitation in various organs (systemic oxalosis). Despite renal replacement therapy or kidney transplantation, patients with PH1 have an overall shorter lifespan than patients with other causes of renal failure, highlighting the progressive and severe nature of this metabolic disease.

PH1 is the most common of the primary hyperoxalurias but is a rare disease with an estimated prevalence of approximately one to three in 1,000,000 individuals. While epidemiologic data on PH1 is limited, these estimates suggest there are approximately 1,000 to 3,000 patients in both the United States and Europe, and possibly up to 20,000 patients globally.

Limitations of Current Approaches

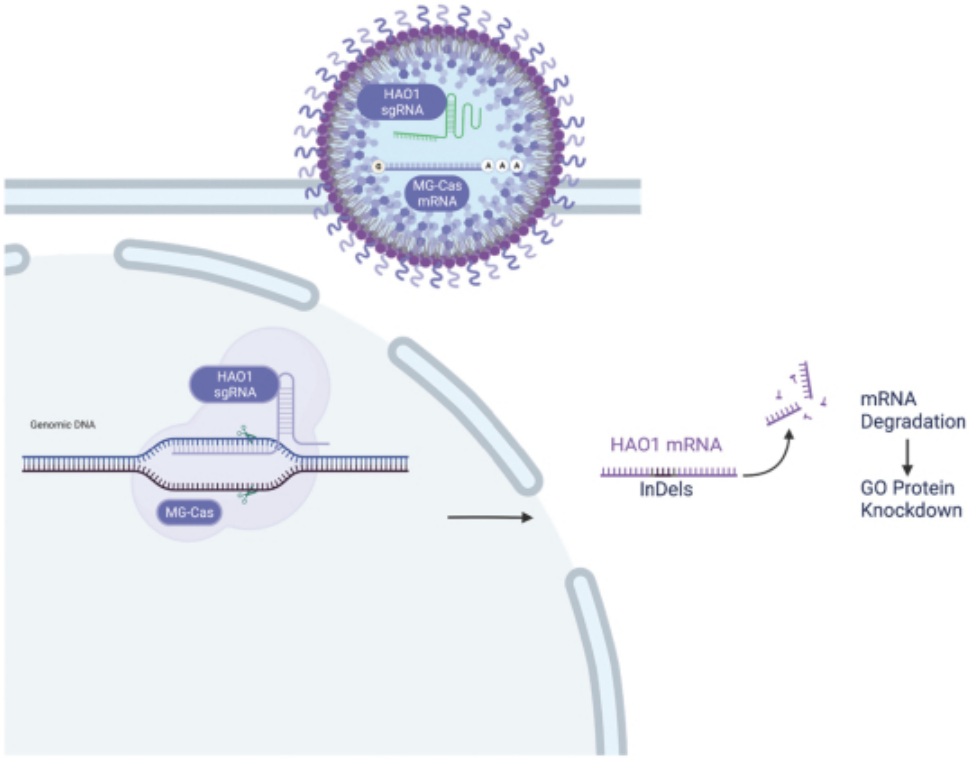
Until recently, the standard of care for treating PH1 was primarily supportive in nature, with hydration and diuretics used to reduce urinary oxalate concentration, pyridoxine (vitamin B6) to enhance residual function of alanine glyoxylate aminotransferase catalytic activity, and hemodialysis once renal function progressed to end stage. Liver transplantation has also been explored as a means of providing patients with a normal copy of AGXT and has been used alone in early-stage patients or as a combined liver-kidney transplant in more advanced patients. Transplantation approaches have limitations due to donor availability, morbidity associated with the surgical procedure, and lifelong immunosuppression required to inhibit graft rejection.

More recently, the standard of care has been updated to include treatment with lumasiran, a siRNA therapeutic approved in adults and children with PH1 that acts to reduce the levels of urinary oxalate. Using a therapeutic approach known as substrate reduction therapy, lumasiran targets mRNA from a separate gene, HAO1, that encodes GO. By inhibiting GO, levels of glyoxylate are reduced, which results in reduced downstream levels of oxalate. As a result, lower urinary oxalate results in decreased urinary calcium oxalate stone formation. It is anticipated that inhibition of renal oxalate accumulation and stone formation can slow or prevent continued loss of renal function. Lumasiran has been generally well tolerated in clinical studies of adults and children with PH1 but it requires repeat subcutaneous administration indefinitely in order to maintain its effect. In addition, injection site reactions are common among patients taking lumasiran and the degree of urinary oxalate reduction has been observed to not reach normal levels in many patients. An additional RNAi drug, Nedosiran, which targets LDH, a different enzyme in the same pathway as HAO1, was also granted marketing approval by the FDA for adults and children with PH1 in October 2023. Thus, there is a potential to improve clinical outcomes for PH1 patients with a one-time administration of a therapy that inhibits urinary oxalate accumulation, prevents calcium oxalate stone formation, and protects renal function.

Our Approach and Results

The goal of our genome editing approach is to durably knock down HAO1 resulting in stable and permanent reduction of oxalate levels to effect a lifelong benefit. We plan to deliver mRNA for one of our lead nucleases and a guide encapsulated within a single LNP as shown in Figure 32 below. We expect the mRNA and HAO1 gRNA will be released in hepatocytes (the cell type in the liver that expresses the HAO1 gene) where the mRNA will be expressed into the nuclease that forms a complex with the guide and create a double stranded break in the HAO1 gene and inhibits gene expression.

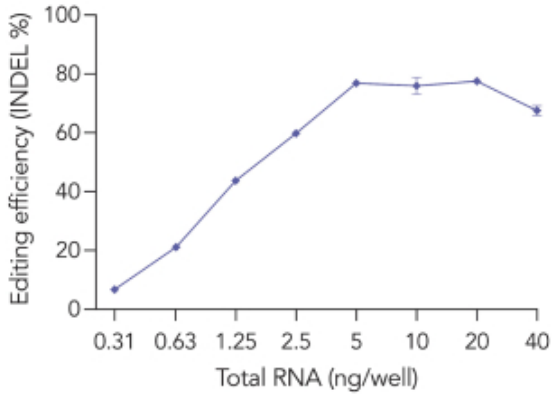
Figure 32. Genome Editing Strategy for Targeting HAO1.



The safety of this durable knockdown of HAO1 is supported by human genetic observations of an individual lacking a functional copy of the HAO1 gene with no evidence of a pathologic phenotype. The safety of this approach is also supported by up to three years of clinical data using a siRNA approach to silence this gene.

We have performed nuclease and guide screening to select an optimal nuclease and gRNA combination. The double strand break created by the selected nuclease has been observed to be efficiently and rapidly repaired by the cell via a process that introduces small InDels to the sequence at the target site. When these InDels alter the reading frame of the gene (so called “out of frame” InDels) this results in degradation of the HAO1 mRNA. Because different nucleases and guides generate distinct InDel profiles, we included analysis of the InDel profile as a selection criterion during our nuclease /gRNA screen. In addition to the InDel profile, we also screened for the efficiency of HAO1 mRNA reduction and impact on the HAO1 mRNA sequences using whole transcriptome RNA sequencing (“RNAseq”). This screening process resulted in selection of a lead guide that targets an identical sequence in humans and mice which enables the evaluation of the lead human guide in mouse models. The potency of this lead nuclease and guide was tested in PHH *in vitro* as shown in Figure 29, demonstrating dose-dependent editing when delivered by a LNP with tropism to the liver.

Figure 33. Editing Dose Response in Primary Human Hepatocytes with the Lead Nuclease mRNA and Guide Targeting HAO1 Delivered in a LNP.



The off-target profile of the lead human guide targeting HAO1 is being evaluated in accordance with FDA guidelines published in March 2022. Potential off-target sites were identified using a combination of *in silico* prediction, biochemical discovery assays, and a cell-based discovery assay. To predict potential off-target sites *in silico* we used the variant aware CRISPRme software using a permissive PAM for MG29-1 (TYYN) and permitting up to 4 changes from the HAO1 reference protospacer to identify potential off-target sites referencing both the GRCh38 human genome reference and a variant call file (vcf) for more than 2,000 alternative genomes from the 1000 genomes consortium.

We applied two biochemical off-target discovery methods, Digenome-seq and SITE-Seq both of which digest purified human genomic DNA with the editing nuclease/guide complex *in vitro*.

To identify potential off-target sites with a cell-based discovery method we transfected primary human hepatocytes with MG29-1 and the lead guide together with a short double stranded oligonucleotide that integrates into the genome of cells at double strand breaks. Using a PCR based method we selectively amplified the DNA junction between the integrated oligonucleotide and the human genome and evaluated the profile of potential off-target sites by NGS.

A total of 318 potential sites were identified by the combination of the three methods; the overlap of potential off-target sites identified from each of these methods is shown in Figure 34.

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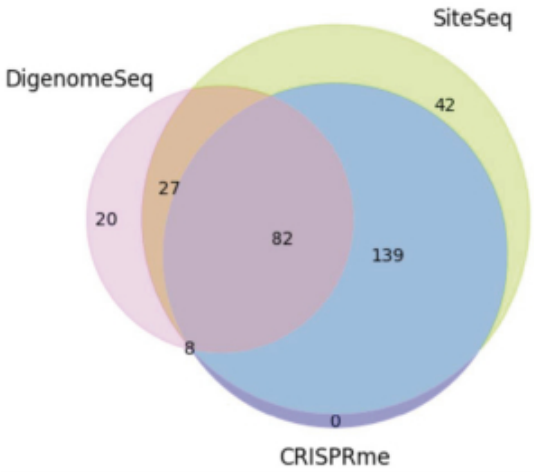
Figure 34: Venn diagram demonstrating the overlap in potential off-target sites nominated for the lead HAO1 targeting guide.

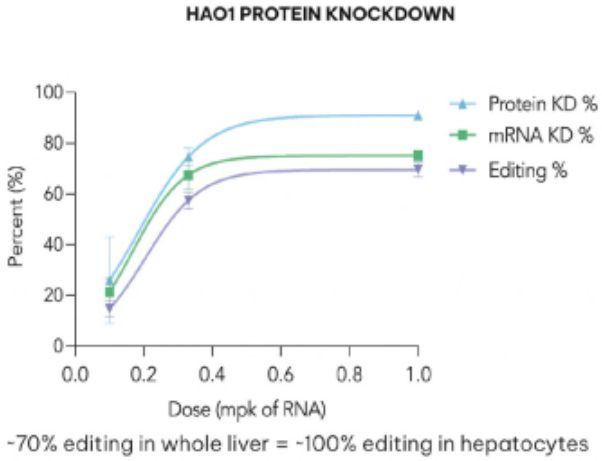


These 318 potential off-target sites were tested in primary human hepatocytes that had been edited by MG29-1 and the lead *HAO1* targeting gRNA using LNP delivery.

Off-target editing at all 318 potential off-target sites was measured in the genomic DNA from primary human hepatocytes edited by MG29-1 and the lead *HAO1* targeting gRNA. No editing was detectable at any of the 318 potential off-target sites for the lead *HAO1* targeting guide in the most relevant human cell, primary human hepatocytes, indicating that MG29-1 in combination with the lead HAO1 targeting gRNA is highly specific.

In normal mice we have demonstrated dose dependent saturating levels of hepatocyte genome editing of HAO1 and up to 90% reduction of target GO protein, providing strong preclinical proof-of-concept as shown in Figure 35.

Figure 35. Dose Dependent Editing, mRNA Knockdown and Protein Knockdown of HAO1 in Normal Mice after a Single Administration of the Lead Nuclease mRNA and Lead Guide Encapsulated in a LNP with Tropism to the Liver.

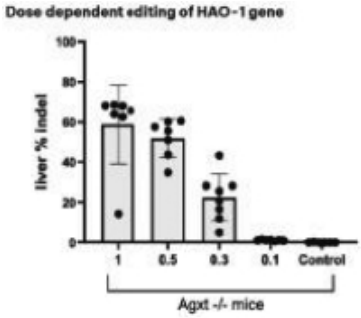


Additionally, along with our partner Moderna, we have achieved preclinical proof-of-concept in an AGXT knock-out mouse which is an accepted disease model of PH1 (Figure 36). AGXT knock-out mice have elevated oxalate in

the urine (measured with a mass spec assay) of about 500 mg per gram of creatinine compared to about 190 mg per gram of creatinine in mice of the same strain (BL/6) with a wild type AGXT genotype. Cohorts of male and female mice were given a single administration of the lead nuclease mRNA and gRNA encapsulated in a LNP with tropism to the liver. Dose dependent editing at the target site in HAO1 in the liver was measured at the end of this study (when the mice were sacrificed). The editing of HAO1 had the expected effect of dose dependently reducing urinary oxalate, with the highest dose achieving oxalate levels comparable to that of wild type mice.

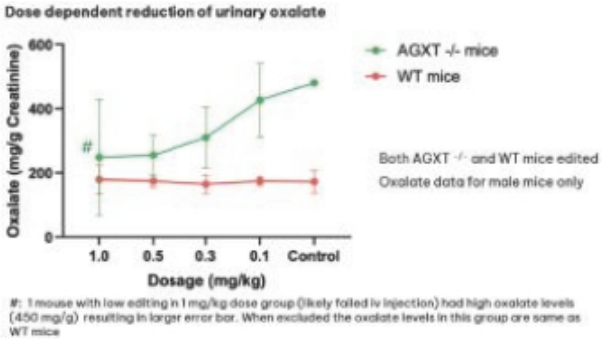
Figure 36. Preclinical Proof of Concept in PH1 Disease Model (AGXT -/- mice).

Figure 36a. Dose dependent editing of the HAO1 gene in AGXT -/- mice.



Source: Moderna

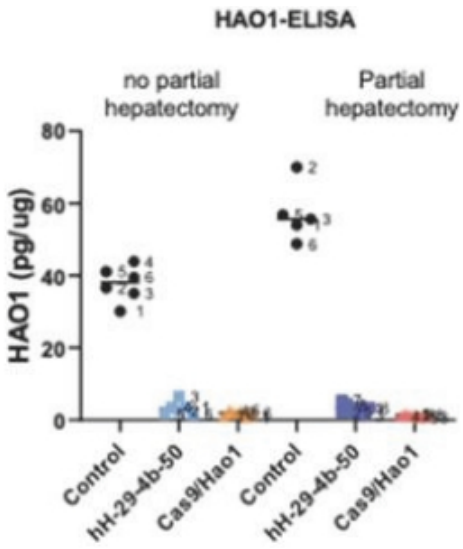
Figure 36b. Dose-dependent reduction in urinary oxalate reaching normalization at highest dose.



Source: Moderna

The durability of this approach was demonstrated by continued knockdown of GO protein even after partial hepatectomy (removal of about two thirds of the liver) and rapid liver re-growth (Figure 37). In this study wild type mice were given a single injection of either buffer or a liver tropic LNP encapsulating the MG nuclease mRNA and the lead gRNA targeting HAO1. As a control a Cas9 mRNA and a potent Cas9 guide targeting HAO1 from a published source were also packaged in the LNP with tropism to the liver and tested at a single dose. Eight days after dosing a liver hepatectomy was performed in which about two thirds of the liver was removed. This stimulates the majority of the remaining liver cells to enter cell division and results in rapid re-growth of the liver that restores the normal liver size within 7 to 10 days. Eight days after partial hepatectomy the levels of GO protein (the product of the HAO1 gene) in the liver were reduced by more than 90%, the same as the level of knockdown in edited mice that did not undergo hepatectomy. This result demonstrates that the knockdown of HAO1 expression was not compromised by extensive liver growth and that the fitness of edited hepatocytes was not impacted by editing.

Figure 37. Knockdown of the Protein Encoded by HAO1 after HAO1 Gene Editing was Maintained Following Partial Hepatectomy. Control Mice were Injected with Buffer as a Control.



Source: Moderna

Next Steps

We are in the final stages of confirming the candidate to take into NHP studies and expect to have NHP data in 2024 to support final development candidate selection.

This program is partnered with Moderna for both development and commercialization. The partnership enables us to leverage Moderna's expertise in mRNA and LNP technology to ensure efficient delivery of our nuclease to hepatocytes. In turn, we provide the novel programmable nuclease and guide chemistry to support precise targeting of the HAO1 gene. In addition to further validating our therapeutic platform, to the best of our knowledge this program represents the first time a type V nuclease is being developed for a therapeutic *in vivo* genome editing approach.

Transthyretin Amyloidosis—a single treatment to knockdown TTR gene expression

The Disease

Transthyretin amyloidosis is a disease of misfolded and aggregated TTR protein that can deposit in tissues causing organ dysfunction, primarily in the heart and/or peripheral nerves. The TTR protein is normally produced in the liver and circulates in a homotetramer (four copies of the same TTR protein bound together) where it serves as a carrier protein for vitamin A and thyroxine. Certain mutations have been identified that can cause TTR homotetramers to fall apart, misfold, and aggregate into insoluble fibrils that deposit in cardiac tissue and peripheral nerves. However, more commonly, the normal aging process is associated with an increased propensity for TTR misfolding and aggregation in the heart without any known genetic sequence variation. These distinctions lead to TTR amyloidosis being characterized as either ATTRv caused by mutations in TTR, or ATTRwt. It is estimated that globally there are approximately 50,000 patients with ATTRv and between 300,000 and 500,000 patients with ATTRwt. Among the larger ATTRwt patient population, the most common presentation is a rapidly progressive, restrictive, and hypertrophic cardiomyopathy due to progressive deposition of insoluble TTR fibrils, which result in thickening of the myocardium and stiffening of the ventricles.

These pathologic processes lead to impaired diastolic function and progressive cardiomyopathy that typically leads to progressive heart failure and often death within three to five years from disease onset. Although cardiac manifestations are more common and severe, patients with neurologic manifestations also experience significant morbidity, loss of functionality, and impaired quality of life.

Limitations of Current Approaches

To date, treatment options for patients with TTR amyloidosis, including those with either cardiomyopathy or polyneuropathy manifestations, consist of efforts to stabilize the TTR tetramer with a small molecule (tafamadis) or knock down TTR levels through antisense oligonucleotides (i.e., inotersen and eplontersen which is currently under regulatory review in the U.S.) or siRNA strategies (i.e., patisiran and vutrisiran).

Tafamadis was studied in a randomized trial of patients with either ATTRv and ATTRwt cardiomyopathy and demonstrated reductions in all-cause mortality and cardiovascular-related hospitalizations and reduced the decline in quality of life and functional capacity over 30 months compared to placebo. Tafamadis is currently approved to treat patients with ATTR cardiomyopathy in the U.S. and patients with ATTRv and ATTR cardiomyopathy in the EU and in other parts of the world. Inotersen has demonstrated benefit in patients with ATTRv and polyneuropathy and is approved in the U.S., EU, and in other parts of the world. Eplontersen has demonstrated benefit in patients with ATTRv and polyneuropathy and is currently under regulatory review in the U.S. Eplontersen is also being studied in a Phase 3 trial for patients with ATTR cardiomyopathy. Patisiran is approved for the treatment of polyneuropathy of ATTRv in adults in the U.S., EU, and other parts of the world. Patisiran is currently under regulatory review for the treatment of patients with ATTR cardiomyopathy based on a randomized study demonstrating improvement in the 6-Minute Walk Test and quality of life over 12 months compared to placebo. Vutrisiran has demonstrated benefit in patients with ATTRv and polyneuropathy and is approved for use in ATTRv in the U.S., EU, and other parts of the world. Although these approaches have improved clinical outcomes for patients with TTR amyloidosis, the disease is still associated with significant morbidity and mortality and requires lifelong therapy to maintain therapeutic benefit.

Our Approach/Next Steps

More recently, early-stage third-party studies have demonstrated the feasibility of knocking down TTR (wild type or mutated versions) using a CRISPR based genome editing approach in a small number of patients. Clinical validation of this TTR knockdown approach is provided by antisense and siRNA clinical experience and further suggests the potential longer-term safety and tolerability of this approach.

Using our novel nucleases, we aim to provide efficient TTR knockdown and halt further deposition of amyloid fibrils. Previous experience suggests a clinical correlation between the degree of TTR knockdown and potential for benefit in familial forms of the disease, which are expected to translate similarly to wild type forms. The high degree of *in vivo* editing efficiency and specificity of our nuclease platform suggest the potential for a single treatment to knockdown TTR gene expression and remove the requirement for life-long therapy.

Along with our partner Ionis, we are currently in advanced stages of nuclease and guide selection and expect to move into NHP studies in 2024. We believe one of the strengths of our technology platform is applying our multiple nucleases that have distinct non-overlapping PAMs to create a larger number of guides for a given target. Starting with a larger number of guides should increase the chance of finding highly active and specific guides/nuclease combinations. Leveraging multiple nucleases with a diversity of PAMs enabled a high targeting density for the TTR gene as illustrated in Figure 38a. By comparison significantly fewer (3.8-fold fewer) guides are available when using SpCas9 (Figure 38b). We have screened more than 500 guides against the human TTR gene using six of our nucleases. With one additional nuclease in progress we will ultimately have screened 535 guides. Our high throughput screening platform has enabled us to screen approximately 500 guides in a four-month time span.

Figure 38a. High density of gRNA targeting the coding and regulatory regions of the TTR gene enabled by our platform of nucleases with diverse PAMs.

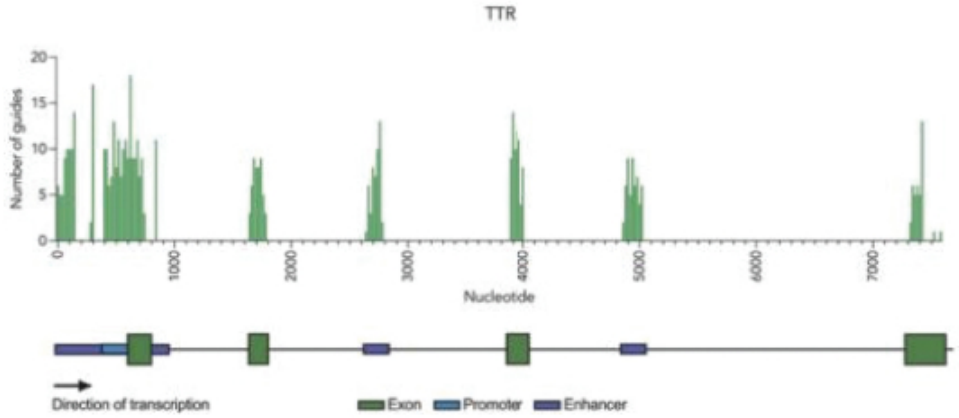
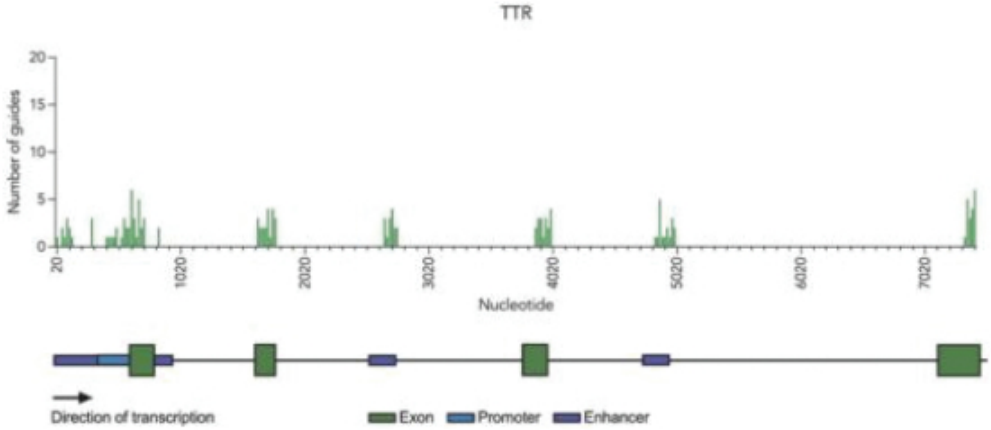


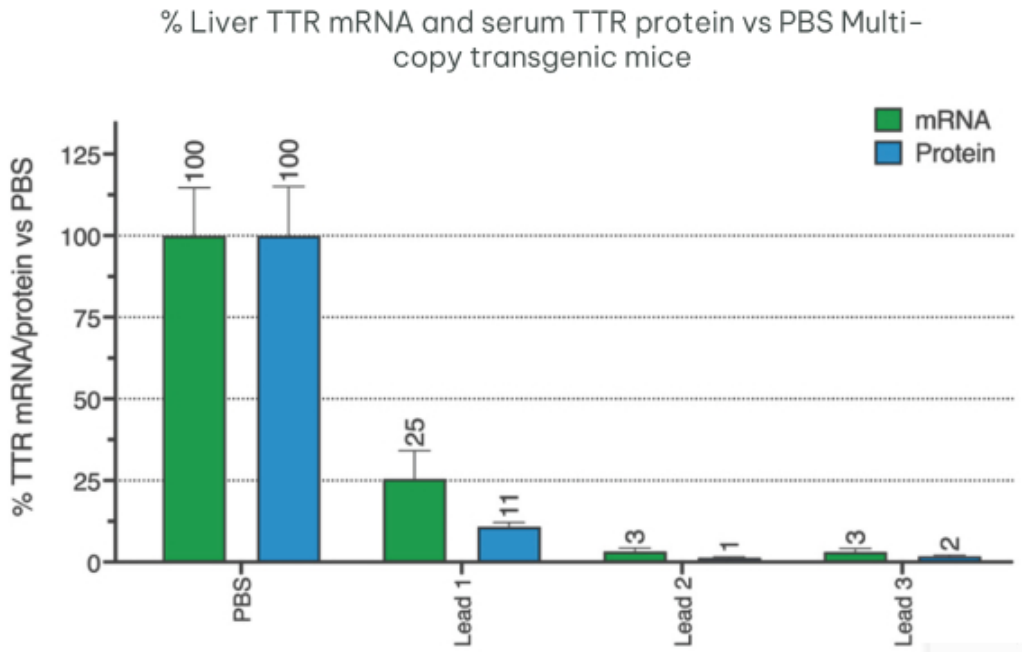
Figure 38b. Density of SpCas9 gRNA targeting the coding and regulatory regions of the TTR gene.



We are in the process of selecting lead guides and nucleases for evaluation in mouse models that carry the human TTR gene. Promising early leads have shown potent TTR mRNA knockdown in primary human hepatocytes. We plan to deliver our programmable nuclease and its associated gRNA to the liver using LNP technology, which has been shown to be highly selective for hepatocytes. This program not only provides a novel nuclease approach to knocking down TTR levels, but also leverages our partner's long-standing clinical development expertise in the TTR amyloidosis field to accelerate our efforts.

A preliminary evaluation of the in vivo potency of lead human guides was performed in a humanized mouse model in which multiple copies of the human TTR gene were integrated at random sites in the mouse genome. These mice express human TTR protein which can be measured in the blood using an assay specific for the human TTR protein. In this study, Lead 1 reduced the human TTR mRNA and protein by 75% and 88%, respectively. Leads 2 and 3 both reduced the human TTR mRNA and protein by 97% and 98%, respectively. Leads 2 and 3 are particularly attractive because these guides and mRNA have undergone only minimal sequence and chemistry optimization to date. Additional leads are currently being evaluated in this mouse model.

Figure 39. Proof of concept for knockdown of human TTR protein by lead nucleases/guides in human TTR transgenic Mice.



Cardiovascular Disease – a gene editing solution to eliminate angiotensinogen gene expression

The Disease

Cardiovascular disease is the leading cause of death worldwide and implicated in the deaths of approximately 17.9 million individuals each year. Although cardiovascular diseases are not genetically defined diseases, there are well validated gene targets and signaling pathways that address potent sources of vasoconstriction allowing for the creation of an important genetic medicine for these common diseases. Among the most important of these signaling pathways that have demonstrated marked clinical benefit in both hypertension and heart failure is the renin-angiotensin-aldosterone system (RAS) pathway, that has been successfully targeted by a number of important medications including renin inhibitors, angiotensin converting enzyme inhibitors, angiotensin receptor blockers, and aldosterone antagonists. Beyond its effect on blood pressure control, inhibitors of the RAS pathway have been shown to provide meaningful clinical benefit in ischemic heart disease and chronic heart failure as well as in diabetic nephropathy, and other forms of chronic renal insufficiency. However, continuous 24-hour inhibition of the RAS pathway with oral agents is not always successful, especially if compliance is suboptimal. Importantly, despite use of RAS inhibitors, diurnal variability in blood pressure and nocturnal blood pressure elevations can still occur. Recent early stage clinical studies using antisense and siRNA approaches to durably suppress the RAS pathway by targeting liver derived angiotensinogen provides important clinical validation of this approach as a means of safely reducing blood pressure without incurring hypotension, hypokalemia, or acute renal injury.

Limitations of Current Therapy

Although there are numerous approved classes of drugs that have demonstrated clinical benefit in patients with cardiovascular disease and refractory hypertension patients, many patients do not reach their blood pressure

goals or continue to have cardiovascular disease progression. In addition to contributions from underlying stiffened arteries and/or increased sympathetic tone, patients may have suboptimal adherence in taking a large number of daily oral pills. Importantly, current treatments often do not fully provide reliable and consistent 24-hour control of blood pressure which can leave patients exposed to diurnal variation and early morning blood pressure surges associated with cardiovascular events. Adverse effects of polypharmacy approaches and complicated food effects or drug-drug interactions can further negatively affect compliance and lead to poor outcomes. Therefore, despite the availability of oral medications, there remains a significant unmet need for a well-tolerated, durable approach to blood pressure control and cardiovascular protection with a clinically validated target.

Our Approach/Next Steps

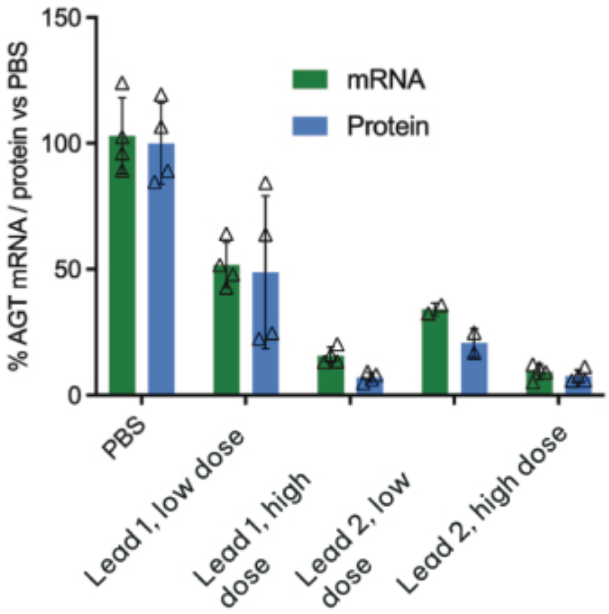
Our goal is to knockdown the expression of angiotensinogen in the liver using one of our programmable nucleases to generate a durable reduction in blood pressure from a single treatment. Angiotensinogen, encoded by the gene AGT, is at the top of the RAS pathway and the precursor to highly vasoconstrictive peptides angiotensin I and II and is thus an attractive and novel target for reduction of blood pressure. Inhibiting angiotensinogen protein production from the liver has the advantage of minimizing inhibition of the RAS pathway in the kidney which will provide a better safety profile by keeping the small amount of kidney production of AGT intact and thus avoiding renal dysfunction that is common with current medications and ensuring adequate vasoactive homeostasis in stress situations. A second potential advantage of targeting AGT is that it may limit escape mechanisms that restore angiotensin II levels or angiotensin II signaling. Clinical proof of concept for reduction of AGT protein levels comes from ongoing clinical trials of antisense (IONIS-AGT-L_{Rx}) and siRNA (ALN-AGT) drug candidates that have shown reduced mRNA levels of AGT in the liver and consequently reduced levels of AGT protein in the blood. We plan to deliver a programmable nuclease and its associated gRNA to the liver using LNP technology.

Along with our partner Ionis Pharmaceuticals we are currently in advanced stages of nuclease and guide screening and expect to move into NHP studies in late 2024 or early 2025. We believe one of the strengths of our technology platform is being able to access a larger proportion of the human genome by applying our multiple nucleases that have distinct non-overlapping PAMs. We have the potential to screen up to 1,490 guides using six MG nucleases against the AGT gene. To date we have screened 441 guides and are planning to screen an additional 420 guides. Leveraging the multiple MG nucleases with a diversity of PAMs enables a high targeting density as illustrated for the seven MG nucleases that are being screened against AGT. By comparison significantly fewer guides (2.5-fold fewer) are available when using spCas9. Multiple guides with potent editing of the AGT gene in human cells were identified in our initial guide screen against the coding sequence. We are in the process of completing the guide screen and selecting lead guides/nucleases for evaluation in mouse models that carry the human AGT gene.

We believe that this program is expected to be one of the first co-development efforts to develop a gene editing therapy for more common, non-genetically defined cardiovascular indications.

A preliminary evaluation of the in vivo potency of lead human guides was performed in a humanized mouse model in which multiple copies of the human AGT gene were integrated at random sites in the mouse genome. These mice express human AGT protein which can be measured in the blood using an assay specific for the human AGT protein. In this study, human AGT protein in the blood and the human AGT mRNA in the livers were measured 7 days post LNP dosing at both 1 and 0.3 mg/kg (Figure 40). At a dose of 1 mg/kg, lead 1 reduced the human AGT mRNA and protein by 85% and 93%, respectively. Lead 2 reduced the human AGT mRNA and protein by 91% and 92%, respectively. Additional leads are currently being evaluated in this mouse model.

Figure 40. Proof of concept for knockdown of human AGT protein by lead nucleases/guides in transgenic human AGT mice.



A1AT Deficiency

The Disease

A1AT deficiency is an autosomal recessive disease arising from loss of the normal A1AT protein encoded by the gene SERPINA1. Clinical manifestations of A1AT deficiency are primarily in the lung due to the toxic loss of normal function of A1AT, and occasionally in the liver due to the toxic effects of accumulation of abnormal A1AT.

AIAT is a highly abundant plasma protein that acts as an inhibitor of the potent proteolytic enzyme neutrophil elastase. Neutrophil elastase is involved in the host response to infection, but when unchecked can degrade connective tissue. In the lung, clinical manifestations of A1AT deficiency include emphysema and bronchiectasis from destruction of normal alveolar connective tissue. In patients with liver disease, the primary pathophysiology is liver inflammation and cirrhosis due to buildup of abnormal A1AT protein. Liver disease is more often found in children with A1AT deficiency, and lung disease is more often found in adults with A1AT.

A1AT deficiency is a clinically underrecognized disease, especially those with pulmonary manifestations as it is often mistaken for other forms of chronic obstructive pulmonary disease. Recent estimates from genetic screening suggest that 80,000 to 100,000 individuals in the United States have severe deficiencies of A1AT and approximately 40,000 to 60,000 have clinically manifest emphysema caused by A1AT deficiency. As not all individuals with A1AT deficiency present similarly, it is believed that environmental factors such as exposure to smoke, allergens, chemicals, and other environmental factors likely impact the severity and clinical manifestations.

Limitations of Current Therapy

Patients with A1AT deficiency are often treated with protein augmentation therapy. The goal of augmentation therapy is to increase circulating levels of A1AT sufficiently to balance the adverse effects of unchecked

neutrophil elastase and slow the progression of emphysema. Augmentation therapy consists of an IV infusion of purified pooled donor plasma enriched for A1AT protein levels given weekly. While studies have demonstrated the ability to achieve higher circulating levels of A1AT with augmentation therapy, longer term impacts on protecting lung function are limited. This approach is also costly and not available for many patients. Infusions have also been associated with adverse events including flu-like reactions, fever, and rarely anaphylaxis. In severe cases of lung or liver disease, organ transplantation may be required to preserve life but are associated with post-transplant risks and long-term immunosuppression requirements.

Our Approach/Next Steps

The most frequent mutation responsible for A1AT deficiency is the PiZ mutation that changes the normal amino acid at position 342, which is glutamic acid, to lysine (E342K). Patients that are homozygous for the PiZ allele (called ZZ allele) make up more than 90% of the patients globally. We propose to correct this mutation back to normal using either an adenine base editor or Little RIGS. Because individuals that are heterozygous for the PiZ mutation (so called ZM allele) have minimal pathology, it is expected that editing of 50% of the alleles would be therapeutic. The most common DNA sequence change that creates the E342K mutation is a G to A change at the first position of the codon; GAG (normal) to AAG (PiZ). Converting the PiZ sequence (AAG) to the normal sequence (GAG) requires changing the underlined A to G which can be achieved using an adenine base editor. For this approach to be successful, a potent gRNA needs to be identified that targets the editing window to the ABE at the precise location of the codon for amino acid 342. There are five additional A bases within 5 bp on either side of the target A base in the 342 codon which could be subject to bystander edits (defined as edits at non-target bases within the site targeted by the guide), several of which would change additional aa with unpredictable impacts on the structure and function of the protein. Given the complexity of this edit, we will evaluate multiple genome editing systems, including base editors and RIGS, in order to advance the most effective genome editing approach.

Wilson's Disease

The Disease

Wilson's disease is an autosomal recessive disease of copper metabolism resulting from impaired function of the intracellular copper transporter encoded by the gene ATP7B. Mutations in ATP7B lead to impaired biliary excretion of copper, leading to copper accumulation in multiple organs including liver, brain, and eye. Given the large size of the gene and allelic heterogeneity, the disease has been difficult to target with any genetic medicine to date. While impaired copper excretion begins at birth, the effect is typically not observed clinically until later in childhood or early adulthood and the majority of patients are diagnosed between ages five and 35. The most common manifestation is chronic active hepatitis that can progress to liver cirrhosis; however, a variety of neurologic and psychiatric manifestations may also be present and undiagnosed. Such symptoms may include dysarthria, gait impairment, dystonia, depression, irritability, and personality changes. Diagnosis is typically suggested by abnormalities in blood ceruloplasmin and/or 24-hour urine copper as well as the presence of Kayser-Fleisher rings on ocular examination. Additional diagnostic certainty can come from liver biopsy and ATP7B sequencing.

Wilson's disease has an estimated global prevalence of one patient per 10,000 to 30,000 individuals although recent genotyping studies suggest that the actual genetic prevalence may be substantially higher. This estimate suggests that there are more than 30,000 patients with Wilson's disease in the United States alone.

Limitations of Current Therapy

Wilson's disease is a serious disease that is fatal if left untreated, typically from cirrhosis and liver failure. Once diagnosed, the standard of care for Wilson's disease involves chronic treatments to try and remove copper from

the body using copper chelators and efforts to minimize copper absorption from the gastrointestinal tract. Treatment must be lifelong to prevent copper reaccumulation and side effects from chelator therapy (e.g. hypersensitivity reactions, fever, changes to blood counts) are common and can lead to treatment discontinuation. If treatment is discontinued, patients are at risk for hepatic decompensation or the development of new neurologic symptoms. In patients with delayed diagnosis or rapidly progressive disease, liver transplant may be required with associated post-transplant risks and need for immunosuppression.

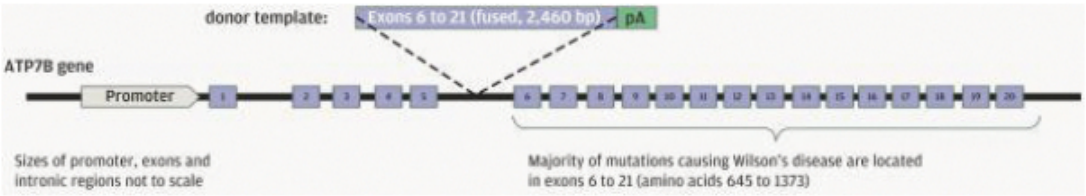
There are no genetic medicines approved for Wilson's disease. A genetic medicine has the potential to eliminate the need for life-long therapy and copper monitoring as well as reduce the risk for adverse events.

Our Approach/Next Steps

Wilson's disease is inherited in a recessive manner meaning that heterozygotes (people having one mutant allele and one wild type allele) are not affected. This means that correction of only one of the two mutant alleles should be sufficient to confer a normal phenotype on the hepatocyte, the cell type in the liver in which the ATP7B gene performs its function. Patients with Wilson's disease have a diverse spectrum of different mutation types (point mutations, deletions, splice site mutations) that are located throughout the ATP7B gene although different ethnic groups bear different predominant mutations. Common mutations in specific population groups include H1069Q (30-70% of Wilson's disease patients in Germany, 30-70% in US Caucasians), M645R (approximately 30% of Wilson's disease patients in Spain), R778L (40% of Wilson's disease patients in Korea, approximately 30% in China).

We are working to treat Wilson's disease using a Big RIGS insertion, potentially the first known instance of a targeted large gene insertion with this approach. We believe this represents the ideal approach for genome editing for Wilson's disease because we expect that it could enable the majority of patients to be treated with the same therapy irrespective of their specific mutation(s) in ATP7B. The ATP7B gene spans 76,000 bp of DNA in the human genome, and the protein coding sequence of ATP7B is 4,398 bp in length which encodes a protein of 1,465 aa. The majority of the pathogenic mutations identified in ATP7B are located in the C-terminal half of the protein between amino acid positions 645 and 1373 which are encoded in exons 6 to 21 (Figure 41). This region includes the three most frequent mutations (H1069Q, R778L, M645R, I1148T) as well as many other less common mutations. We are evaluating a genome editing approach in which a donor template that encodes exons 6 to 21 of the ATP7B gene (2460 bp) is inserted in to the ATP7B locus at intron 6 (downstream of exon 5) such that exons 1 through 5 of the endogenous gene are functionally fused to the inserted wild type exons 6 to 21. We believe this will generate a wild type ATP7B protein driven from the endogenous ATP7B promoter thereby preserving the normal levels of ATP7B and normal regulation of expression. This approach should be applicable to all Wilson's disease patients except for those with mutations in exons 1 to 5 which represent only a small fraction of the patient population. This approach leverages an all RNA based editing system such that the editing components could theoretically be delivered in a single LNP that is taken up by the hepatocytes of the liver.

Figure 41. Genome Editing Strategy for Wilson's Disease.



Familial Amyotrophic Lateral Sclerosis ("ALS")

The Disease

ALS is a rapidly progressive neurodegenerative disorder of upper and lower motor neurons leading to weakness, disability, and death. The prevalence of ALS is approximately four to six patients per 100,000 individuals and it is estimated that over 5,000 patients are diagnosed each year in the United States. While the majority of ALS cases have no known family history, it is estimated that approximately 10% of cases are due to inherited causes. Of these, among the more prominent causes is from a mutation in the gene superoxide dismutase 1 ("SOD1"). SOD1 ALS (occasionally referred to as ALS1), is an autosomal dominant condition associated with toxic gain of function of SOD1 leading to protein misfolding and intraneuronal cytotoxicity. While the mechanism of action of SOD1 pathophysiology is poorly understood, it is unique in that histopathologically it does not contain typical cytoplasmic inclusions of the nuclear binding protein TDP-43 seen in other spontaneous and familial forms of ALS. The median age of diagnosis of SOD1 ALS is mid-to-late 40s, and similar to other forms of ALS, progressive weakness and loss of voluntary function is rapid with a median survival after diagnosis of approximately three years.

Limitations of Current Therapy

Despite significant investment in research over recent decades, the standard of care for treating all forms of ALS is suboptimal and there remains no cure. There are currently three drugs approved in the United States to treat all forms of ALS (riluzole, sodium phenylbutyrate and taurursodiol, edaravone), and one recent accelerated drug approval for SOD1 ALS (tofersen). To date, only modest benefit in slowing disease progression or improving survival has been observed, and all of these medications require repeat administration or dosing and are associated with adverse effects. In a Phase 3 clinical trial, tofersen, which is an antisense olignonucleotide targeting SOD1 delivered directly to the cerebrospinal fluid and that requires repeated lumbar puncture monthly, did not result in a statistically significant change on clinical measures after 28 weeks of treatment, but did show a nominally statistically significant benefit on a biomarker, neurofilament light chain, and longer term administration was associated with slowing of disease. Clinically significant adverse reactions with tofersen include myositis and/or radiculitis, papilledema and elevated intracranial pressure, and aseptic meningitis, and additionally adverse reactions can occur from repeated lumbar puncture procedures. Thus, despite this precision medicine approach, there remains significant unmet need for effective therapies that can halt disease progression and improve overall survival from SOD1 ALS.

Our Approach/Next Steps

Our approach is to build upon the data generated by tofersen and use one of our programmable nucleases to durably knock down SOD1 levels with a single administration, thus capturing durable benefit with a clinically validated disease target without requiring the patient burden of repeat intrathecal administrations of an oligonucleotide. We plan to deliver the nuclease and associated guide using an AAV vector with sufficient tropism for lower motor neurons. We have performed guide screening with 8 of our small MG nucleases that can fit in a single AAV. A total of 99 lead guides were identified for SOD1 and 60 leads for ATXN2 which are being evaluated in neuronal cells in culture. We are in the process of optimizing AAV vector designs to package and efficiently express our small nucleases and gRNA from a single virus to enable evaluation of lead SOD1 and ATXN2 guides in mouse models.

Spontaneous ALS

The Disease and Limitations of Current Therapy

As noted above, ALS is a relentless and ultimately fatal disease of motor neurons with no known cure. Approximately 90% of ALS does not have a known family history or clear genetic cause. While the underlying cause of ALS in most cases is unknown, a common histopathologic finding involves misfolded cytoplasmic protein aggregates that include TDP-43. As TDP-43 is a highly conserved nuclear RNA and DNA binding protein involved in RNA processing, the clinical manifestations of ALS may arise both from the toxic cytoplasmic TDP-43 aggregates as well as RNA processing abnormalities from the loss of normal nuclear functions of TDP-43. The initial symptom of ALS is a gradual onset of muscle weakness that is typically painless. These symptoms are often followed by muscle twitching, loss of coordination, falls, and fatigue that impair functionality. As the disease progresses, loss of ambulation, spasticity, and diaphragmatic weakness progresses with the most common cause of death being respiratory failure. Despite the approval of several classes of oral compounds for spontaneous ALS, effects on preserving clinical functionality and survival are modest. There remains significant unmet need for safe and effective therapies that can halt disease progression and improve overall survival from spontaneous ALS.

Our Approach/Next Steps

TDP-43 intracytoplasmic inclusions and proteinopathy are hallmarks of the vast majority of ALS histopathology; however, targeting TDP-43 directly has not been feasible due to its critical role in RNA processing and other cellular functions. We intend to develop an ALS therapy that targets the ATXN2 gene, which we believe is an attractive target based on strong third-party preclinical data targeting the gene ATXN2, which encodes the protein Ataxin 2, and has been shown to be a powerful genetic modifier of TDP-43 in yeast and flies, and importantly, knockdown of Ataxin 2, either by antisense oligonucleotides or by genetic manipulation has improved survival and motor function in a mouse model of ALS. A Phase 1/2 clinical trial of an investigational antisense oligonucleotide targeting Ataxin 2 in adults with ALS that is administered intrathecally is in progress, which will provide further information about the safety and efficacy of this approach.

Our plan is to deliver a nuclease and associated guide using an AAV vector with sufficient tropism for lower motor neurons. We are currently initiating guide screening efforts to potently and selectively knock down Ataxin 2 levels and determining the appropriate nuclease/guide system for AAV packaging.

Charcot-Marie-Tooth Type 1a (“CMT1a”)

The Disease

CMT1a is part of a larger classification of hereditary peripheral motor and sensory neuropathies caused by pathogenic mutations in proteins associated with myelin formation and axonal signal propagation. CMT1a is an autosomal dominant disease arising from a gene duplication of PMP22 (peripheral myelin protein-22) and overexpression of PMP22 protein. PMP22 is tightly regulated and expressed in Schwann cells that control the production of myelin sheaths around axons. Patients with CMT1a have altered myelination that impairs nerve conduction and neuromuscular function. Patients typically present in the first or second decade of life with lower extremity weakness, atrophy, falls, and sensory deficits. The disease is slowly progressive and impairs mobility, and can also involve changes to distal upper extremities and limb deformities. Although life expectancy is typically preserved, CMT1a leads to significant disability and impaired quality of life.

Although exact prevalence estimates vary, CMT is believed to affect one patient per 2,500 individuals, with approximately 126,000 patients in the United States alone. Of those approximately half are believed to have CMT1a, the most common form of the disease.

Limitations of Current Therapy

The treatment of CMT1a and other forms of CMT are largely supportive and there are no approved treatments. Existing standard of care involves physical therapy, stretching, orthotics, and occasional foot surgery to improve deformities that impair ambulation. Patients should be screened for conditions that can exacerbate neuropathies such as vitamin deficiencies or diabetes in an attempt to mitigate against more rapid progression. There are investigational efforts for RNA targeted therapeutics to reduce PMP22 overexpression with strong preclinical data to support the approach, but clinical studies are very early and therapies would need to be given lifelong.

Our Approach/Next Steps

Our approach to CMT1A is a permanent reduction of PMP22 protein levels to the normal range by knockdown of PMP22 expression using our nuclease platform. There is preclinical proof-of-concept for this approach in a mouse model of CMT1A using AAV9 to express a siRNA against PMP22. We intend to use our novel nucleases to introduce InDels in the promoter region of PMP22 that lead to a reproducible reduction of PMP22 expression to the normal range. We anticipate that this editing approach will be delivered via an AAV with the goal of achieving uniformly high levels of genome editing while minimizing the risk of toxicity resulting from reducing PMP22 levels to below normal at a cellular level.

We believe the diversity of our nuclease platforms including type V systems such as MG29-1 that create larger deletions and are more likely to inactivate promoters by eliminating transcription factor binding sites, lends itself to identification of nuclease guide combinations that are efficient and result in partial reduction in the expression of the PMP22 gene. We plan to perform a guide screen targeting the promoter region first in HEK293 cells (a cell line that expresses PMP22 mRNA) and active guides with promising InDel profiles and editing potency will be further evaluated for PMP22 mRNA knockdown. Lead systems will be vectorized into AAV9 viruses and evaluated in the CMT1a mouse model. Once reduction of PMP22 expression is confirmed, the therapeutic benefit can be evaluated via various endpoints including tissue morphology, nerve conduction velocity, circulating biomarkers and behavioral tests to support candidate selection.

Duchenne Muscular Dystrophy (“DMD”)

The Disease

DMD is an X-linked recessive myopathic disease involving loss of function mutations of dystrophin, a large protein critical for the stabilization and protection of muscle fibers encoded by the DMD gene. In the setting of absent or abnormal dystrophin, muscle fibers are prone to injury, degeneration, fibrosis, and ultimately fatty infiltration and replacement. DMD typically presents in early childhood with initial symptoms of muscle weakness and progresses rapidly to loss of ambulation as well as respiratory muscle fatigue and cardiomyopathy. In general, large proximal muscles are affected earlier than smaller distal muscles, and lower extremity muscles are affected earlier than upper extremity muscles. Patients are often wheelchair bound before teen years and often die in their late teens and early twenties from cardiopulmonary complications. Prior to clinically overt findings, patients typically have marked elevations in the muscle enzyme creatine kinase that can serve as the earliest indicator of muscle inflammation and degeneration. DMD is estimated to occur in one of every 3,500 live births, and as an x linked recessive disease is observed almost entirely in males.

DMD is the largest gene identified in humans to date spanning approximately 2.3 Mbp, and the severity of clinical manifestations of the muscular dystrophy is in part related to the location and type of dystrophin mutation and resulting residual amount of dystrophin present. Accordingly, in-frame mutations with residual dystrophin of 5-50% are associated with a less severe clinical course than early truncating mutations with

residual dystrophin levels of 0-5%. These findings have led to drug development efforts to restore out of frame mutations into in-frame mutations that result in an abnormal but partially effective dystrophin protein. Additionally, it has been observed that in-frame deletions of large portions of the central part of the dystrophin protein coding region are well tolerated, which has provided the basis for gene transfer approaches of a “microdystrophin” protein.

Limitations of Current Approaches

Despite significant efforts to develop precision medicines for DMD, results to date have not led to meaningful improvements in the standard of care for patients. The mainstay of treatment for DMD is glucocorticoids to address muscle inflammation and improve proximal muscle strength and respiratory function. However, the benefits of glucocorticoids have to be weighed against their long-term risks that include excessive weight gain, impact on growth, cataract formation, bone loss/fracture risk, and behavioral changes. More recently several genetic therapies that induce exon skipping have been approved in the United States to address specific mutations (e.g., exon 45 (casimersen), exon 51 (etiplirsen), exon 53 (golodirsen)) or induce readthrough of stop mutations (ataluren). These therapies have shown modest improvement in muscle dystrophin levels but their overall impact on clinical outcomes has not been established.

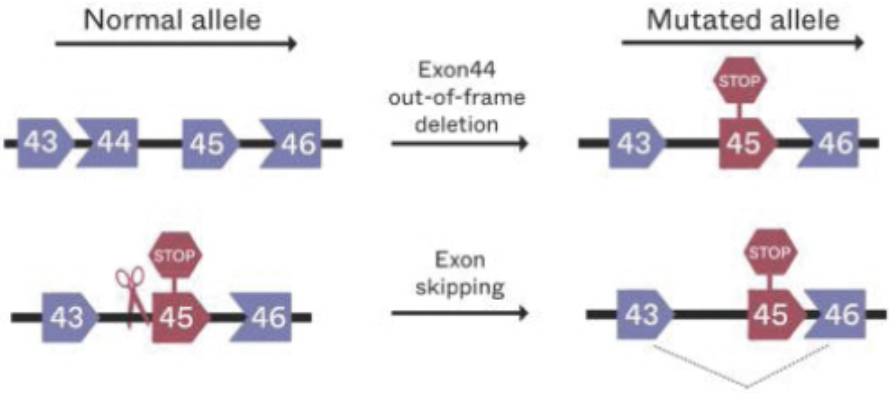
Our Approach/Next Steps

DMD patients often have deletions of entire exons (frequently in the hotspot region of exons 45-55) which results in the flanking exons being spliced out of frame at the mRNA level. Approved therapies have aimed to correct these mutations by restoring the open reading frame through “exon skipping”, thus avoiding degradation of the mRNA and/or premature protein termination.

Our proposed genome editing approach is to more effectively facilitate exon skipping by making permanent changes at the DNA level using genome editing that inactivate the splice acceptor (5’ exon splice junction sequence) of the exon that follows the deleted exon such that after transcription the RNA splicing machinery “skips” over that exon, splices to the following exon, and restores the proper reading frame. The resulting proteins will lack the domains encoded by the mutated and skipped exons but these are known to function nearly as well as normal dystrophin.

For example, one common mutation is deletion of exon 44, which results in exon 43 being aberrantly spliced to exon 45 and an out of frame mRNA (designated as “STOP” in Figure 42) which is then degraded or translated into a truncated protein. As shown in the Figure 42 below, skipping of exon 45 results in splicing from exon 43 to 46 and restores protein expression.

Figure 42. Example of Exon Skipping Approach for Dystrophin Exon 45 that Results in Splicing of Exon 43 to 46 Thereby Restoring the Correct Translational Reading Frame and Thus Dystrophin Function.



We believe a similar strategy can be employed for deletions of exons 50, 51, and 53, creating a franchise of development programs for DMD. We are in the process of initiating a guide screen using our toolbox of DSB nucleases and base editors that are small enough to package in a single AAV vector to inactivate the splice acceptors of the various exons within this hotspot region. The splice acceptor sequence is short (composed of a poly-pyrimidine tract of about 10 to 15 bases followed a short distance away by the three base consensus sequence C/T-A-G) which limits the number of guides that can be designed to inactivate the splice acceptor when using a single nuclease. We are leveraging our collection of small nucleases that have a variety of different PAMs to enable more guides to be designed against each splice acceptor. Hits from this guide screen will be assayed in cardiac and/or skeletal muscle cells *in vitro*. The nuclease/guide combinations that show potent activity in muscle cells will then be evaluated in human cells in which the DMD gene contains the relevant pathogenic mutations to evaluate exon skipping activity. *In vivo* evaluation of leads will be performed in mouse models of DMD.

Because DMD affects skeletal and cardiac muscles throughout the body of DMD patients, effective therapy will require delivery to a large proportion of these muscles with the diaphragm and heart muscle being of particular importance. To date the only delivery system that is able to deliver to these tissues is AAV, with AAV serotype 9 showing the most promising delivery profile. Because a maximum of up to 5 kb of DNA can be packaged inside the AAV virus it is not possible to deliver SpCas9 and a guide or current SpCas9 derived base editors and a guide in a single AAV. While these larger systems can be split between two AAVs, this reduces potency due to the dose limiting toxicity of AAV and the need to administer two viruses (effectively doubling the dose). A dual AAV approach also increases manufacturing complexity and costs. We are leveraging our collection of smaller editing systems that can be packaged in a single AAV (currently three nucleases).

The potential therapeutic benefit of editing the DMD gene in mouse models will be assayed at the mRNA and protein level, and by functional endpoints such as maximum force output.

Cystic fibrosis

Cystic fibrosis is an autosomal recessive lung disease caused by mutations in the CFTR gene. Mutations impact electrolyte transport in cells that produce mucus, sweat, and digestive fluids causing these secretions to be thicker and more viscous than normal. As a result, these secretions become sticky and can clog passageways and ducts, particularly in the lung and pancreas. Over time, these thick mucus secretions in the lung cause

chronic lung infections, inflammation, fibrosis and ultimately destructive bronchoalveolar lung disease resulting in progressive pulmonary failure. The pancreas is similarly affected and blockage of ducts in the pancreas lead to loss of exocrine function and pancreatic insufficiency.

The overall incidence of cystic fibrosis is estimated at one patient in 3,000 to 6,000 live births in the US and Europe, but rates depend strongly on geographic location and ethnicity with higher rates in Caucasians of northern European descent and much lower rates in Asians. It is estimated that there are approximately 30,000 individuals living with cystic fibrosis in the US and 70,000 individuals worldwide. Over the past few decades, improvements in antibiotic treatments, supportive measures, multidisciplinary care centers, and newer targeted medications have increased the overall life expectancy from late childhood to the fourth decade.

Limitations in Current Approaches

One of the challenges in developing precision medicines for cystic fibrosis is the large nature of the gene and the varied mutations along the gene that result in loss of protein expression, loss of function, misfolding and mislocalization within the cell. Accordingly, therapeutic efforts have required individualized approaches tailored to certain mutations to improve CFTR function. Although such medications have improved rates of lung function decline, not all patients have mutations amenable to CFTR targeted therapies. Further, none of these therapies offer a true cure to the underlying gene mutation, and patients continue to experience morbidity and mortality from cystic fibrosis disease progression.

Our Approach/Next Steps

Our goal for a genome editing based treatment for cystic fibrosis is two-fold: (1) a permanent curative therapy from a single treatment, and (2) a therapy that is applicable to the majority of cystic fibrosis patients. We believe this could be achieved by integrating a functional version of the CFTR gene into the genome of the lung basal stem cells (alternatively called bronchioalveolar stem cells). The basal stem cells are believed to give rise to the lung epithelial cells that are the site of CFTR expression that is defective in cystic fibrosis patients. Stem cells are a specialized population of cells that are maintained for a person's lifetime and are the source for renewal of differentiated cells. Editing the stem cells should ensure that the introduced functional CFTR gene is not lost over time due to the shedding of differentiated epithelial cells. By integrating a functional CFTR gene rather than correcting individual cystic fibrosis causing mutations, a single therapy could treat the majority of cystic fibrosis patients.

We intend to explore two of our genome editing modalities in cystic fibrosis. The Big RIGS technology and CAST systems both have the potential to integrate large pieces of DNA (in this case encoding a CFTR gene) into a specific site in the genome. For the Big RIGS approach, the CFTR gene would be delivered as an RNA that is reverse transcribed into DNA to provide the DNA template for integration. In the case of CAST, the CFTR gene would be delivered as double stranded DNA that is recognized by the CAST system and integrated at the desired site by the transposase. Delivery to the basal stem cells of the lungs can theoretically be achieved by IV dosing. We may also evaluate a non-viral delivery system for lung delivery.

We believe the Big RIGS system has the advantage that it can be delivered using only RNA for which non-viral RNA delivery technologies such as LNP are well established. In contrast, delivery of DNA (that would be required for CAST) by non-viral delivery vectors is not well established with the main barrier being transit of the DNA into the nucleus. However, in a preliminary study we have recently demonstrated delivery of a 4.6 kb double stranded DNA to the nuclei of cells in the liver of mice by IV administered LNP.

Cell Therapy Applications Using Our Platform

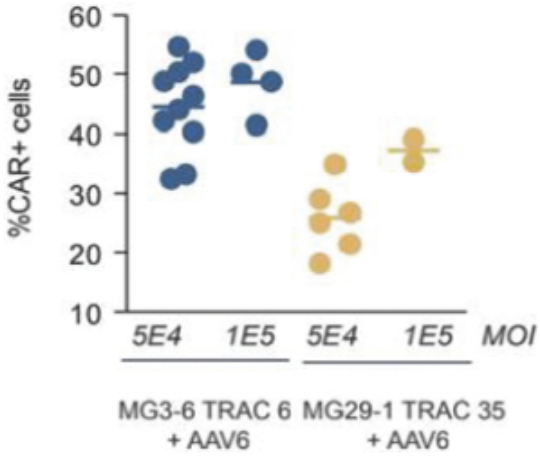
Identifying and optimizing novel nucleases from our metagenomics platform has involved a series of stringent efficiency, activity, and specificity testing in a variety of immune cell types which yields a comprehensive dataset that demonstrates our genome editing capabilities for cell therapy applications. Many cell therapies require multiple simultaneous genome edits to enhance efficacy, safety, and/or durability of these products. In the allogeneic cell therapy setting, additional gene edits are required to decrease the immunogenicity of the cell therapies to prevent rejection by the host immune system. Our toolbox provides an important advantage compared to the current cell therapy landscape as we are able to use either single or multiple genome editing enzymes to implement multiple gene edits ("multiplex editing") with high efficiency and specificity. These gene edits could be either knock outs or knock ins.

We are currently working on various discovery stage projects in-house and with collaborators to evaluate the efficacy and specificity of our enzymes for the engineering CAR-T and TCR-T cell product candidates.

Our initial lead nucleases can be used to efficiently engineer primary human T cells, demonstrating utility for cell therapy applications.

Our programmable nucleases have achieved key requirements for T cell engineering, including genome editing dsDNA-break induced knock-in of a chimeric antigen receptor (CAR, Figure 43).

Figure 43. Example of Two Lead Nucleases, Type II MG3-6 and Type V MG29-1, Capable of Engineering Primary Human T Cells.

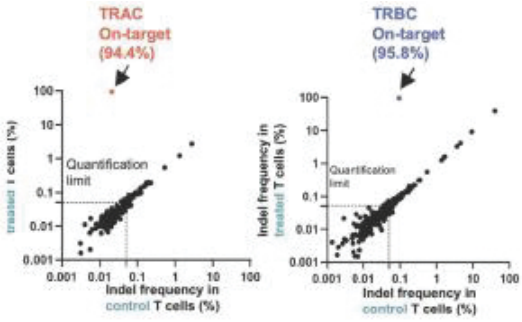


* Nucleases were delivered as RNP and CAR donor template by AAV.
* Nucleases were programmed to target the TRAC locus.
* CAR integration into T cells from 10 T cell donors with MG3-6 and MG29-1 and either 5E4 or 1E5 MOI.

Data generated by Metagenomi.

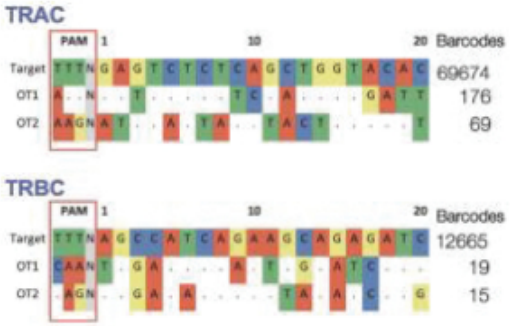
Our MG29-1 nuclease is a highly active and specific nuclease being used for *ex vivo* T cell engineering in collaboration with Affini-T Therapeutics. Affini-T Therapeutics is developing a cell therapy based on engineering the TCR of T cells to recognize mutant KRAS for the treatment of patients with solid tumors. Affini-T scientists showed that the knock-out of the endogenous TCR improved expression of a transgenic TCR, and that MG29-1 can be used to engineer functional TCR T cells by knock-in of a transgene into the TRAC locus.

Figure 44a. MG29-1 tested in primary human CD4/CD8 T cells showed specificity in two loci.



* InDel formation was evaluated for 590 computationally predicted off-targets across TRAC and TRBC, allowing for up to six mismatches.

Figure 44b. Oligonucleotide capture in primary T cells identified putative MG29-1 off-targets. More sensitive methods did not verify such results.



* Off-targets had 100-fold fewer barcodes compared with target sites.

* Off-target sites could not be validated with amplicon-based NGS sequencing.

* The presence of >9 mismatches in the off-target sites may indicate that they are not likely to be true positives.

Data generated by Affini-T Therapeutics.

We plan to use our gene editing enzymes to engineer different T cell subsets with either chimeric antigen receptors (CARs) or engineered TCRs targeting antigens expressed in various tumor indications, including hematological and solid tumor malignancies. We are currently investigating different tumor targets and tumor indications to select future T cell therapy product candidates. In addition, we plan to use CAR-T cells in auto-immune diseases driven by the production of autoantibodies, including conditions such as systemic lupus erythematosus, rheumatoid arthritis, myasthenia gravis, autoimmune hemolytic anemia, immune-mediated thrombotic thrombocytopenic purpura, and possibly others. We will use T cells engineered with chimeric antigen receptors against B cell markers to deplete the B cell compartment and eliminate the production of autoantibodies.

Our License and Collaboration Agreements

Moderna Strategic Collaboration and License Agreement

On October 29, 2021, the effective date, we entered into a Strategic Collaboration and License Agreement (the "Moderna Agreement") with Moderna. We will collaborate with Moderna on the research and development of *in vivo* genome editing therapies directed at certain targets and the commercialization of such genome editing therapies. The collaboration provides Moderna with exclusive access to our technology platform during the research period in (1) the field of *in vivo* gene editing technology for a therapeutic, ameliorative or prophylactic application by way of knock-out through InDel formation or base editing or insertion of an exogenous DNA template (such field, "DT Field") and (2) the field of *in vivo* gene editing technology for a therapeutic, ameliorative or prophylactic application outside the use of (a) DNA donor templates and (b) no exogenous template at all but including (c) correction by base editing (such field, "RT Field"). We formed a joint steering committee, a joint research subcommittee and a joint patent subcommittee to oversee the collaboration activities. Each of us and Moderna must use commercially reasonable efforts to perform and complete our respective activities under research plans and commercialization plans approved by the joint steering committee.

Under the terms of the Moderna Agreement, we and Moderna will collaborate on one or more programs in the RT Field (the "Moderna RT program") and two programs in the DT Field (the "Moderna DT program" and the "DT Co-Co program"). We and Moderna have each granted the other party a non-exclusive license in such party's (i) background technology, including intellectual property rights controlled by each party related to each respective program, and (ii) the know-how and patents that come into control of each party relating to the program and during the respective program term, in each case to carry out activities in the applicable research programs. We shall own certain intellectual property that relates to our technology platform ("Metagenomi Program Technology"). Moderna shall own certain intellectual property that relates to Moderna's technology platform ("Moderna Program Technology"). Any intellectual property discovered, invented, conceived or created during an applicable research term that is not Metagenomi Program Technology or Moderna Program Technology shall be jointly owned by us and Moderna. Further, we granted Moderna a perpetual, irrevocable, royalty-free, nonexclusive license under Metagenomi Program Technology to the extent pertaining to the exploitation of donor templates or guides to which Moderna has any inventive contribution.

With respect to the Moderna RT and Moderna DT programs, we will collaborate on the research and development of product candidates under the approved research plans. The initial research term of the Moderna RT program is four years, which may be extended by Moderna for an additional three years upon written notice and a payment of extension fees. The initial research term of the Moderna DT program is four years. We granted to Moderna an option to obtain an exclusive license to develop, manufacture and commercialize up to ten Moderna RT program candidates and up to two Moderna DT program candidates at any time during the research term and prior to filing of an investigational new drug ("IND") application with the Food and Drug Administration ("FDA") or any similar application filed with a regulatory authority in a country other than the United States ("U.S."), subject to Moderna's payment of an option exercise fee of $10.0 million per target. If we or any of our affiliates wish to grant any third party rights in certain targets in the DT Program prior to the earlier of the (a) second anniversary of the agreement or (b) 90 days after achievement of certain readiness standards, we shall provide Moderna with written notice thereof and Moderna shall have a right of first negotiation to negotiate an agreement on the terms of a collaboration and license agreement for such targets.

With respect to the DT Co-Co program, we will work together with Moderna on the co-development and commercialization of products and share costs and profits equally. We granted Moderna a co-exclusive (with us and our affiliates) license under our patents and know-how related to PH1, the DT Co-Co target, to exploit all applications

of such target in the DT Co-Co program. We maintain commercialization rights in the U.S. (subject to Moderna's right to appoint up to 50% of the U.S. sales force for the DT Co-Co program), while Moderna maintains these rights in countries other than the U.S. The initial research term for the DT Co-Co program is four years, and each party has a right to opt-out of the DT Co-Co program at any time, at which point the other party has the right to solely continue the development and commercialization activities, provided that the party which has opted-out shall have a right of first offer in the event that the other party wishes to grant a license or sublicense to a third party with respect to the DT Co-Co program. If there is no development candidate nomination by the end of the initial research term, the DT Co-Co program will expire, unless we have mutually agreed to continue the program.

During the year ended December 31, 2021, we received a non-refundable upfront payment of $40.0 million and a $5.0 million payment for the first year of research costs. Concurrent with the Moderna Collaboration Agreement, Moderna also provided $30.0 million in cash in the form of a convertible promissory note (see Note 9 in our audited consolidated financial statements included elsewhere in this prospectus) pursuant to a convertible promissory note agreement dated October 29, 2021 (the "Moderna Convertible Promissory Note Agreement"). The convertible promissory note was converted into shares of Series B redeemable convertible preferred units in January 2022. Moderna will reimburse us up to $5.0 million in annual research and development costs related to the Moderna DT and Moderna RT programs, or up to the agreed amount of expenses per the budget. As of September 30, 2023, we have received a total of $49.6 million under the Moderna Collaboration Agreement, not including cost-sharing payments under the DT Co-Co program.

For the Moderna RT and Moderna DT programs, we are eligible to receive (i) technology milestone fees related to the achievement of certain preclinical research objectives of up to $75.0 million, (ii) development and regulatory milestones of up to $100.0 million per target, (iii) sales milestones of up to $200.0 million per target, and (iv) royalties ranging from a mid-single digit to a low-teens percentage of annual net sales of a licensed product. Any profits and losses from the co-development and commercialization of the DT Co-Co program are shared equally between us and Moderna. With respect to the DT Co-Co program for which the opt-out party has exercised its opt-out right, the continuing party will pay to the opt-out party, certain development, regulatory and sales milestone payments that will not exceed an aggregate $239.0 million per DT Co-Co target, and opt-out royalties ranging from a high-single digit to a low-teens percentage of annual net sales of a licensed product.

The term of the Moderna Agreement will continue on a licensed product-by-licensed product and country-by-country basis, until the expiration of the applicable royalty term. The royalty term commences on the first commercial sale of a licensed product and terminates on the latest of: (a) the expiration or abandonment of the last valid claim of a patent within the licensed Moderna DT or RT technology; (b) 10 years after the first commercial sale of a licensed product; and (c) expiration of the regulatory exclusivity. Upon the expiration of the term of a licensed product in the Moderna DT or Moderna RT program, the licenses granted to Moderna will survive and become perpetual, fully paid and royalty-free. Each party may terminate the Moderna Agreement on a program-by-program basis upon written notice to the other party for an uncured material breach or insolvency. In lieu of termination for our material breach, Moderna may, upon written notice, continue the agreement with respect to the relevant collaboration target at Moderna's amounts payable reduced by 50%, or in the case of a DT Co-Co-Target, Moderna may propose, subject to arbitration, to adjust the profit and loss share for DT Co-Co Products to provide Moderna with an additional share of the net profits (not to exceed 75% of the total net profits). We may terminate the Moderna Agreement upon written notice to Moderna for a patent challenge. Additionally, Moderna may terminate the agreement at its convenience with respect to Moderna DT or Moderna RT programs for any reason upon at least: (a) 60 days' prior written notice if a first commercial sale has not occurred for the products in such program, or (b) 180 days' prior written notice if a first commercial sale of a product in such program has occurred. Upon termination, all licenses granted under the agreement with respect to the applicable products under the agreement shall terminate, subject to an orderly wind-down period, provided that any permitted sublicense granted to a third party shall survive (provided such third party did not cause the termination through uncured material breach).

Affini-T Development, Option and License Agreement

On June 14, 2022, the effective date, we entered into a Development, Option and License Agreement (the "Affini-T Agreement") with Affini-T. Pursuant to the Affini-T Agreement, we and Affini-T have agreed to identify, develop or optimize certain reagents using our proprietary technology for Affini-T to use such reagents to develop and commercialize gene edited TCR-based therapeutic products exclusively in the field of treatment, prevention or diagnosis of any human cancer using products with any engineered primary TCR alpha/beta T cells and non-exclusively in the field of treatment, prevention or diagnosis of any human cancer using products with certain other engineered immune cells worldwide. A joint steering committee was established by both parties to assign alliance managers and project leaders to oversee the collaboration activities. We must use commercially reasonable efforts to perform and complete our obligations under research plans approved by the joint steering committee.

Pursuant to the Affini-T Agreement, we granted Affini-T options to receive, on a pre-specified target-by-pre-specified target basis, for up to six pre-specified targets, either (i) an exclusive, royalty-bearing, sublicensable worldwide license under all of our applicable intellectual property to research, develop, manufacture, use, commercialize and otherwise exploit any TCR-based therapy, preventative treatment, or diagnostic for humans that is directed to such pre-specified target, contains or comprises Primary TCR alpha/beta T Cells and is derived from *ex vivo* application of our reagent (the "Exclusive Option") or (ii) a non-exclusive, royalty-bearing, sublicensable worldwide license under all our applicable intellectual property to research, develop, manufacture, use commercialize and otherwise exploit any TCR-based therapy, preventative treatment, or diagnostic for humans that is directed to such pre-specified target, contains or comprises TCR natural killer ("NK") cells derived from iPSC immune cells or TCR T cells derived from donor-derived or iPSC immune cells. Affini-T can exercise its options for either an exclusive license or a non-exclusive license, or both, for each pre-specified target by providing written notice prior to the earlier of (x) the end of the Affini-T Agreement term or (y) 90 days following the filing of an IND for a licensed product directed to a pre-specified target, subject to the payment of certain fees per each option exercised. After the option exercise, Affini-T has agreed to use commercially reasonable efforts to conduct all development and commercialization activities for a licensed product, and development and commercialization of all licensed products will be at Affini-T's sole cost and expense.

On a target-by-target basis, (1) until the earlier of Affini-T's (a) exercise of an Exclusive Option, (b) written notice not to exercise an Exclusive Option or (c) expiration of an applicable Exclusive Option or (2) upon exercise of an Exclusive Option, we and our affiliates shall not exploit, or work with any third party to exploit, any *ex vivo* gene edited products directed to the applicable target covered by such Exclusive Option.

In connection with the Affini-T Agreement, we received upfront equity consideration of 719,920 shares of Affini-T's common stock with an estimated fair value of $1.3 million in June 2022. The fair value of Affini-T's shares of common stock was estimated by our management, considering the most recent third-party valuation. Affini-T has also agreed to reimburse us for expenses incurred while performing research activities under the research plans. As of September 30, 2023, we received a total of $3.2 million from Affini-T related to reimbursable expenses. Additionally, we are eligible to receive (i) 933,650 shares of Affini-T's common stock upon the achievement of a regulatory milestone, which is the earlier of a submission of a drug master file to the FDA or an acceptance of an IND filing for a licensed product by the FDA, (ii) up to $18.8 million in future developmental milestone payments depending on the completion of or the number of patients dosed in, the relevant human clinical trial, or the initiation of a pivotal trial, and $40.6 million in future regulatory approval milestone payments, which include regulatory approvals in the U.S. and other markets for licensed products directed to a pre-specified target if options for both exclusive and non-exclusive licenses are exercised with respect to such target, (iii) up to $250.0 million in sales-based milestones for aggregate sales of all licensed products directed to a given pre-specified target and (iv) royalties ranging from a low-single digit to high-single digit percentage of worldwide annual net sales of licensed products.

The initial term of the Affini-T Agreement is five years from the effective date. If Affini-T exercises an Exclusive Option with respect to any pre-specified target during the initial term, the initial term will be extended by an additional five years. Following the expiration of the extended term, if any, the agreement will continue on a

target-by-target basis and expire with respect to such target upon the expiration of the royalty term for all licensed products directed to such target. The Affini-T Agreement may be terminated during the term by either party for an uncured material breach by, or bankruptcy of, the other party. Additionally, Affini-T may terminate the Affini-T Agreement for convenience, in its entirety, on a research plan-by-research plan basis, on a target-by-target basis or on a licensed product-by-licensed product basis, by providing prior written notice. Upon a material breach and with written notice to us, in lieu of termination, Affini-T shall have the right to continue the agreement at payments payable at a certain percentage reduction.

Ionis Collaboration and License Agreement

On November 10, 2022, the effective date, we entered into a Collaboration and License Agreement (the "Ionis Agreement") with Ionis to collaborate on drug discovery and exploratory research activities to advance new medicines using gene editing strategies, with the goal of discovering novel medicines. Pursuant to the terms of the Ionis Agreement, we granted Ionis and its affiliates a worldwide exclusive, royalty-bearing license, with the right to grant sublicenses, to use all licensed systems and licensed products in the field of *in vivo* gene editing for all therapeutic, prophylactic, palliative, and analgesic uses in humans. In connection with the Ionis Agreement, we also have the right to exercise an exclusive option to co-develop and co-commercialize certain products under a drug discovery program. A joint steering committee was established by both parties to coordinate, oversee, and monitor the research and drug discovery activities under the Ionis Agreement. Each party must use commercially reasonable efforts to perform and complete its respective activities under the applicable program plans approved by the joint steering committee.

We will collaborate to discover therapeutic products under a drug discovery program and develop a drug discovery plan for each target, selected by Ionis. The target selection is divided into two waves: up to four targets in Wave 1 and up to four targets in Wave 2. For each drug discovery program, once the parties identify a development candidate that is suitable for further development, Ionis will be responsible for the development and commercialization of products resulting from such program. Per the terms of the Ionis Agreement, at any time prior to the designation of a development candidate for a drug discovery program and for any reason, Ionis may replace the collaboration target, provided such target has not previously been substituted out. Ionis may substitute (i) up to two Wave 1 targets and (ii) up to two Wave 2 targets.

The drug discovery activities for a program commence on the selection of a target and expire upon the earlier of (a) completion of all drug discovery activities for such program, (b) the fifth anniversary of the effective date and (c) selection of a development candidate for such drug discovery program. If one or more Wave 2 targets become collaboration targets as a result of the parties achieving enabled delivery and less than two years are remaining in the drug discovery term, then the term will be extended to the earlier of (i) the time that we complete all of our activities under the applicable drug discovery plan and (ii) the seventh anniversary of the effective date, subject to our consent.

We will also conduct an exploratory research program, and will jointly optimize gRNA and select delivery technologies and other activities. The exploratory research activities commence on the effective date and expire upon the earlier of (a) completion of all exploratory research activities established in the exploratory research plan, and (b) the fifth anniversary of the effective date.

We have the exclusive option to co-develop and co-commercialize the licensed products under a drug discovery program (the "Co-Co Option") with Ionis. The Co-Co Option may be exercised for (a) the initial Wave 1 target ("Target 1"), (b) no more than one of the other three discovery programs for the Wave 1 targets, and (c) no more than two drug discovery programs for the Wave 2 targets that become collaboration targets. If we exercise the Co-Co Option for a particular drug discovery program, that drug discovery program will automatically be deemed a "Co-Co Program", all corresponding licensed products be deemed "Co-Co Products," we will be obligated to pay Ionis an option exercise fee, and we and Ionis will enter into a separate co-development and co-commercialization agreement. The Co-Co Option exercise fee will equal 50% of Ionis'

internal costs and out-of-pocket costs incurred in the conduct of the drug discovery activities prior to the exercise of the Co-Co Option and be reduced by 50% of our corresponding costs incurred. Future development and commercialization costs will be shared equally. We may elect to reduce our cost-share percentage anywhere between 50% and 25% on a go-forward basis, provided we will continue to bear 50% of the costs of any clinical trials ongoing at the time of the election through the completion of the clinical trials.

We will manufacture all licensed systems and certain components of the applicable licensed products that are needed by Ionis for use in its development activities and all of our manufactured components needed by Ionis for use in its commercialization activities. We will provide the manufactured components at a price that represents the cost of goods plus 15%.

Pursuant to the terms of the Ionis Agreement, we have also been granted an option to obtain a non-exclusive, royalty-bearing license, with the right to grant sublicenses, for certain Ionis' background technology to use in up to eight therapeutic products discovered by us in the field of *in vivo* gene editing and directed to a Collaboration Target (each such product, a "Metagenomi Product" and each such option an "Ionis IP Option"), but subject to encumbrance checks with respect to particular targets. A Collaboration Target is a target that is selected by Ionis, and, with respect to us, is not the subject of discussions with a third party, is not the subject of a contractual grant of rights to a third party nor the subject of an internal research and development program. If we exercise our Ionis IP Option, we will pay to Ionis up to several million dollars per Metagenomi Product upon achievement of certain clinical and regulatory milestones. We are also obligated to pay Ionis royalties in an amount equal to a low single-digit royalty on the net sales of the applicable Metagenomi Product on product-by-product and country-by-country basis.

In November 2022, we received an $80.0 million upfront payment from Ionis for the Wave 1 drug discovery research collaboration and selected Target 1. Ionis selected its second target ("Target 2") in Wave 1 in December 2022 and its third target ("Target 3") in Wave 1 in November 2023. In November 2023, we agreed to extend the period during which we expect Ionis will select its fourth target ("Target 4") in Wave 1 by an additional three months from the 12-month anniversary of the effective date, as permitted under the arrangement. Ionis has an option to select up to four Wave 2 targets at any time during the drug discovery term, if (a) an IND for any licensed product directed to a Wave 1 target is filed with the applicable regulatory authority or (b) the parties achieve enabled delivery for a non-liver target under the exploratory research activities, by providing written notice and by paying a Wave 2 target selection fee of $15.0 million or $30.0 million, depending on and per the selected target.

Ionis is obligated to reimburse us for all internal costs and out-of-pocket costs incurred in the performance of the exploratory research activities, up to an aggregate of $10.0 million, which is payable in quarterly installments of $0.5 million during the exploratory research term. As of September 30, 2023, we received a total of $1.5 million related to the reimbursable expenses. We are also eligible to receive (a) up to $29.0 million in future development milestone payments for each licensed product; (b) up to $60.0 million in future regulatory milestone payments for each licensed product; (c) up to $250.0 million in sales-based milestones for each licensed product; and (d) royalties on annual net sales of licensed products from a mid-single-digit to low-teens percentage, subject to customary reductions.

The term of the Ionis Agreement will continue (i) with respect to the drug discovery programs, until the expiration of all applicable royalty terms for a licensed product, (ii) with respect to the Co-Co Programs, until the parties cease all exploitation for the Co-Co Products that are the subject to such Co-Co Program, and (iii) with respect to the Metagenomi Products, until the expiration of the royalty term for a Metagenomi Product. The royalty term ends on the latest of the following two dates: (i) the expiration of (A) the last claim of any issued and unexpired patent, or (B) a claim within a patent application that has not been pending for more than seven years from the earliest date to which the claim or applicable patent application is entitled to claim priority and which claim has not been revoked, cancelled, withdrawn, held invalid, or abandoned, or (ii) 12 years following the first commercial sale of a licensed product.

The Ionis Agreement may be terminated during the term by either party for an uncured material breach or bankruptcy by the other party. Additionally, Ionis may terminate the Ionis Agreement for convenience and without penalty, in its entirety or on a licensed product-by-licensed product basis, by providing 90 days' written notice. Upon termination, Ionis will transfer to us ownership of all regulatory approvals, and all licenses granted under the agreement with respect to the applicable products under the agreement shall terminate, subject to an orderly wind-down period and a right for Ionis to sell or otherwise dispose of applicable products on hand at the time of such termination. Upon our written request within 30 days following termination, Ionis will grant us an exclusive, royalty-bearing (as agreed by the parties at such time), right and license, with the right to grant sublicenses through multiple tiers, to patent rights and know-how controlled by Ionis and used in the development, commercialization, or exploitation of terminated products, solely for the exploitation of such terminated products in the terminated countries.

Competition

The pharmaceutical and biotechnology industries, including the gene therapy and genome editing fields, are characterized by rapidly advancing technologies, intense competition, and a reliance on strong intellectual property. We believe our metagenomics powered discovery platform along with our expertise in genome editing, drug discovery, clinical development, manufacturing and our ever-increasing IP portfolio, provide us with several key competitive advantages over our peers. Despite our competitive advantages, we face competition from several companies. There are numerous publicly traded companies utilizing CRISPR/Cas nuclease technology, including Caribou Biosciences, Inc., Editas Medicine, Inc., CRISPR Therapeutics AG, Intellia Therapeutics, Inc., and Graphite Bio, Inc., among others. Beam Therapeutics Inc. and Verve Therapeutics, Inc. utilize base editing technology and Prime Medicine utilizes prime editing technology. Several other companies such as Sangamo Therapeutics, Inc., Precision BioSciences, Inc., Cellectis S.A., and bluebird bio, Inc. utilize first-generation nuclease-based genome editing technologies, including ZFNs, engineered meganucleases and TALENs. We also face competition from companies utilizing gene therapy, oligonucleotides, and CAR-T therapeutic approaches.

There are several other private companies such as Arbor Biotech, Chroma Medicine, Inc., Mammoth Biosciences, Scribe Therapeutics, Tessera Therapeutics, Tome Biosciences, and Tune Therapeutics, Inc. that have announced they are working on genome- and epigenome-editing therapies.

Any product candidates that we successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future that are approved to treat the same diseases for which we may obtain approval for our product candidates. This may include other genome editing companies using antiquated or next generation genome editing approaches or other types of therapies, such as small molecule, antibody, and/or protein therapies.

In addition, many of our current or potential competitors, either alone or with their collaboration partners, have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials and approved products than we do today. Mergers and acquisitions in the pharmaceutical, biotechnology and gene therapy industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. We also compete with these companies in recruiting, hiring, and retaining qualified scientific and management talent, establishing clinical trial sites and patient registration for clinical trials, obtaining manufacturing slots at contract manufacturing organizations. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, particularly if they represent cures, have fewer or less severe side effects, are more convenient, or are less expensive than

any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. The key competitive factors affecting the success of all of our programs are likely to be their efficacy, safety, convenience, and availability of reimbursement.

Manufacturing

Our genome editing technology is composed of multiple genome editing components including the nuclease, mRNA, gRNA, and in some instances may include a donor DNA or RNA template for insertions. We have extensively characterized each of these components and have made significant investment in scalable manufacturing and process automation to meet stringent current good manufacturing practices ("cGMP"). Our in-house cGMP facility is capable of manufacturing clinical grade nucleases and mRNA to supply both wholly-owned and collaboration programs. We partner with contact manufacturing organizations ("CMOs") for gRNA and DNA template development and supply and continue to invest in both viral and non-viral delivery technologies internally and with partners. We believe our ability to develop, characterize, and manufacture complex human genome editing components is essential to maintaining a competitive edge while pursuing a successful regulatory pathway for genetic medicine.

Intellectual Property

Our success depends in large part upon our ability to obtain and maintain our technology and intellectual property. To protect our intellectual property rights, we primarily rely on patents and trade secret laws, confidentiality procedures, and employee disclosure and invention assignment agreements. Our intellectual property is critical to our business and we strive to protect it through a variety of approaches, including by obtaining and maintaining patent protection in various countries for our genome editing technology and other inventions that are important to our business.

Patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years from its earliest U.S. non-provisional filing date. The time required for development, testing, and regulatory review of our genome editing systems limits the commercially useful lifespan of our patents.

The patent positions of companies like ours are generally uncertain and involve complex legal and factual questions. No consistent policy regarding the scope of patentable claims in the field of genome editing has emerged, for example, in the United States and in Europe. Changes in the patent laws and rules, either by legislation, judicial decisions, or regulatory interpretation may diminish our ability to protect our inventions and enforce our intellectual property rights. These changes could affect the scope and value of our intellectual property.

Filing, prosecuting, enforcing, and defending patents protecting our genome editing systems in all countries throughout the world would be prohibitively expensive. We cannot seek patent protection for our genome editing systems throughout the world. Furthermore, the intellectual property rights we obtain in some countries outside the United States can be less extensive than those obtained in the United States. The requirements for patentability may differ in certain countries, particularly in developing countries; thus, even in countries where we do pursue patent protection, there can be no assurance that any patents will issue with claims that cover our products.

Our ability to stop third parties from infringing any of our patented inventions, either directly or indirectly, will depend in part on our success in obtaining, defending, and enforcing patent claims that cover our genome editing systems. We cannot be sure that any patents will be granted with respect to any of our pending patent

applications or with respect to any patent applications filed by us in the future. We cannot be sure that any of our existing patents or any patents that may be granted to us in the future will be found by a court to be enforceable. Protecting our competitive position around our genome editing systems may involve lawsuits to enforce our patents or other intellectual property, which is expensive and time consuming, and may ultimately be unsuccessful. Furthermore, our issued patents and those that may issue in the future may be challenged, narrowed, circumvented, or invalidated, which could limit our ability to stop competitors from marketing related genome editing systems or limit the length of the term of patent protection that we may have for our genome editing systems and future gene therapies. We cannot be sure that any of our existing patents or any patents that may be granted to us in the future will be useful in protecting our commercialized genome editing systems. The rights granted under any issued patents may not provide us with complete protection or competitive advantages against competitors with similar but not identical technology or technologies that achieve similar outcomes but with different approaches. For these reasons, we may have competition for our genome editing systems.

Our issued patents and those that may issue in the future do not guarantee us the right to practice our genome editing systems. Third parties may have issued patents or be granted patents in the future that could block our ability to commercialize our genome editing systems.

We and third parties rely on trade secrets to protect certain aspects of our genome editing systems. If we are unable to protect the confidentiality of our trade secrets, our competitive position could be harmed. Furthermore, reliance on trade secrets does not prevent third parties from independently inventing those aspects of our genome editing systems. While we take commercially reasonable steps to ensure that our employees do not use the trade secrets of third parties, third parties may file claims asserting that we or our employees have misappropriated their trade secret.

For this and other risks related to our technology, inventions, improvements, platforms, and genome editing technology, please see the section entitled “Risk Factors—Risks Related to Our Intellectual Property.”

Patent Portfolio

As of September 30, 2023, we own three issued U.S. patents, 15 pending U.S. non-provisional patent applications, 36 pending U.S. provisional patent applications, six issued foreign patents in Great Britain, Hong Kong, Mexico and Australia, 94 pending foreign patent applications, including in Australia, Canada, China, Europe, Great Britain, Hong Kong, India, Japan, Korea, Mexico and Brazil, and 20 Patent Cooperation Treaty (“PCT”) patent applications.

The patent portfolios for our genome editing systems as of September 30, 2023 are summarized below.

Our type II CRISPR systems are protected by two issued U.S. patents with composition of matter claims covering genome editing systems using Type II nucleases, four pending U.S. non-provisional patent applications with composition of matter claims covering genome editing systems using Type II nucleases and methods of using them, and one pending U.S. provisional patent application with composition of matter claims covering genome editing systems using Type II nucleases and methods of using them. Our type II CRISPR systems are also protected by three issued foreign patents with composition of matter claims covering genome editing systems using Type II nucleases, including in Great Britain, Australia and Mexico, 25 pending foreign patent applications with composition of matter claims covering genome editing systems using Type II nucleases and methods of using them, including in Australia, Canada, China, Europe, Great Britain, Hong Kong, India, Japan, Korea, Mexico, and Brazil, and two PCT patent applications with composition of matter claims covering genome editing systems using Type II nucleases and methods of using them. The aforementioned issued US patents will expire on February 14, 2040, and the issued foreign patents will expire on February 14, 2040. If issued, the aforementioned patent applications are expected to expire between February 14, 2040 and May 6, 2041.

Our type V CRISPR systems are protected by one issued U.S. patent and two pending U.S. non-provisional patent applications with composition of matter claims covering genome editing systems using Type V nucleases and one pending U.S. provisional patent application with composition of matter claims covering genome editing systems using Type V nucleases and methods of using them. Our type V CRISPR systems are also protected by two issued foreign patents with composition of matter claims covering genome editing systems using Type V nucleases, including in Great Britain and Hong Kong, 11 pending foreign patent applications with composition of matter claims covering genome editing systems using Type V nucleases and methods of using them, including in Australia, Brazil, Canada, China, Europe, Great Britain, Hong Kong, India, Japan, South Korea, and Mexico, and two PCT patent applications with composition of matter claims covering genome editing systems using Type V nucleases and methods of using them. If issued, the aforementioned patent applications are expected to expire between March 6, 2041 and July 29, 2043. The aforementioned issued foreign patents will expire on March 6, 2041.

Our base editor systems are protected by four pending U.S. non-provisional patent applications with composition of matter claims covering genome editing systems using nucleases and base editors and methods of using them, and two pending U.S. provisional patent applications with composition of matter claims covering genome editing systems using nucleases and base editors and methods of using them. Our base editor systems are also protected by 12 pending foreign patent applications with composition of matter claims covering genome editing systems using nucleases and base editors and methods of using them, including in Australia, Canada, China, Europe, Great Britain, Hong Kong, India, Japan, Korea, Mexico, and Brazil, and one PCT patent applications with composition of matter claims covering genome editing systems using nucleases and base editors and methods of using them. If issued, the aforementioned patent applications are expected to expire on September 10, 2041.

Our CAST systems are protected by two pending U.S. non-provisional patent applications with composition of matter claims covering genome editing systems using nucleases in combination with either recombinases or transposases and methods of using them, and one pending U.S. provisional patent application with composition of matter claims covering genome editing systems using nucleases in combination with either recombinases or transposases and methods of using them. Our CAST systems are also protected by 20 pending foreign patent applications with composition of matter claims covering genome editing systems using nucleases in combination with either recombinases or transposases and methods of using them, including in Australia, Brazil, Canada, China, Europe, Great Britain, Hong Kong, India, Japan, South Korea, and Mexico, and two PCT patent applications with composition of matter claims covering genome editing systems using nucleases in combination with either recombinases or transposases and methods of using them. If issued, the aforementioned patent applications are expired to expire between August 23, 2041 and March 23, 2043.

Our Cas chimera systems are protected by one pending U.S. non-provisional patent application with composition of matter claims covering genome editing systems using chimeric nucleases and methods of using them. Our Cas chimera systems are also protected by one issued foreign patent in Great Britain and ten pending foreign patent applications, including in Australia, Brazil, Canada, China, Europe, India, Japan, South Korea, Mexico and Hong Kong with composition of matter claims covering genome editing systems using chimeric nucleases, one PCT patent application with composition of matter claims covering genome editing systems using chimeric nucleases and two PCT patent applications with composition of matter claims covering genome editing systems using chimeric nucleases and methods of using them. If issued, the aforementioned patent applications are expected to expire on January 21, 2042.

Our SMART nuclease systems are protected by two pending U.S. non-provisional patent applications with composition of matter claims covering genome editing systems using small nucleases, and one pending U.S. provisional patent application with composition of matter covering genome editing systems using small nucleases and methods of using them. Our SMART nuclease systems are also protected by 10 pending foreign

patent applications with composition of matter covering genome editing systems using small nucleases and methods of using them, including in Australia, Canada, China, Europe, Great Britain, Hong Kong, India, Japan, Korea, and Mexico, and two PCT patent applications with composition of matter claims covering genome editing systems using small nucleases and methods of using them. If issued, the aforementioned patent applications are expected to expire on March 31, 2040.

We cannot predict whether the patent applications we pursue or may license in the future will issue as patents in any particular jurisdiction or whether the claims of any issued patents will provide any protection from competitors. Even if our pending patent applications are granted as issued patents, those patents, as well as any patents we may license in the future from third parties now or in the future, may be challenged, circumvented or invalidated by third parties. Consequently, we may not obtain or maintain adequate patent protection for any of our programs and genome editing systems.

The term of individual patents depends upon the legal term of the patents in the countries in which they are obtained. In most countries in which we file, the patent term is 20 years from the earliest date of filing of a non-provisional patent application. In the United States, the patent term of a patent may be extended by patent term adjustment, which compensates the patent owner for patent office delays. Additionally, in the United States, patents that cover an FDA-approved drug or biologic may also be eligible for patent term extension, which permits patent term restoration as compensation for the patent term lost during FDA regulatory review process. The Hatch-Waxman Act permits a patent term extension of up to five years beyond the expiration of the patent. The length of the patent term extension is related to the length of time the drug or biologic is under regulatory review. Patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent applicable to an approved drug or biologic may be extended and only those claims covering the approved drug or biologic, a method for using it, or a method for manufacturing it may be extended. Similar provisions are available in European Member States and other foreign jurisdictions to extend the term of a patent that covers an approved drug or biologic. In the future, if our investigational gene therapies receive FDA approval, we expect to apply for patent term extensions where applicable on patents covering those products. We plan to seek patent term extensions to any of our issued patents in any jurisdiction where these are available, however there is no guarantee that the applicable authorities, including the U.S. Patent and Trademark Office (“USPTO”) in the United States, will agree with our assessment of whether these extensions should be granted, and if granted, the length of these extensions.

Our intellectual property is critical to our business and we strive to protect it through a variety of approaches, including by obtaining and maintaining patent protection in various countries for our genome editing technology and other inventions that are important to our business.

Trademarks

As of September 30, 2023, we own the trademark registrations for Metagenomi in the United States.

Trade Secrets and Proprietary Information

In addition to our reliance on patent protection for our inventions, investigational gene therapies and research programs, we also rely on trade secrets, know-how, confidentiality agreements and continuing technological innovation to develop and maintain our competitive position. Although we take steps to protect our proprietary information and trade secrets, including through contractual means with our employees, advisors and consultants, these agreements may be breached and we may not have adequate remedies for any breach. In addition, third parties may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or disclose our technology. As a result, we may not be able to meaningfully protect our trade secrets. It is our policy to require our employees, consultants, outside

scientific collaborators, sponsored researchers and other advisors to execute confidentiality agreements upon the commencement of employment or consulting relationships with us. These agreements provide that all confidential information concerning our business or financial affairs developed or made known to the individual or entity during the course of the party's relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. In the case of employees, the agreements provide that all inventions conceived of by the individual during the course of employment, and which relate to or are reasonably capable or being used in our current or planned business or research and development are our exclusive property. In addition, we take other appropriate precautions, such as physical and technological security measures, to guard against misappropriation of our technology by third parties. However, such agreements and policies may be breached and we may not have adequate remedies for such breaches. For more information regarding the risks related to our intellectual property, see "Risk Factors—Risks Related to Our Intellectual Property."

Government Regulation

In the United States, biological products, including gene therapy products, are subject to regulation under the Federal Food, Drug, and Cosmetic Act ("FD&C Act"), and the Public Health Service Act ("PHS Act"), and other federal, state, local and foreign statutes and regulations. Both the FD&C Act and the PHS Act and their corresponding regulations govern, among other things, the research, development, clinical trial, testing, manufacturing, safety, efficacy, labeling, packaging, storage, record keeping, distribution, reporting, advertising, and other promotional practices involving biological products. Each clinical trial protocol for a gene therapy product must be reviewed by the FDA. FDA approval must be obtained before the marketing of biological products. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources and we may not be able to obtain the required regulatory approvals.

U.S. Biological Product Development Process

The process required by the FDA before a biological product candidate may be marketed in the United States generally involves the following:

- completion of nonclinical laboratory tests and animal studies according to good laboratory practices ("GLPs"), unless justified and applicable requirements for the humane use of laboratory animals or other applicable regulations;
- submission to the FDA of an application for an IND, which must become effective before human clinical trials may begin;
- approval of the protocol and related documentation by an independent institutional review board ("IRB"), or ethics committee at each clinical trial site before each study may be initiated;
- performance of adequate and well-controlled human clinical trials according to the FDA's regulations commonly referred to as good clinical practices ("GCPs"), and any additional requirements for the protection of human research subjects and their health information, to establish the safety and efficacy of the proposed biological product for its intended use;
- submission to the FDA of a biologics license application ("BLA"), for regulatory approval that includes sufficient evidence of establishing the safety, purity and potency of the proposed biological product for its intended indication, including from results of nonclinical testing and clinical trials;

- satisfactory completion of an FDA inspection of the manufacturing facility or facilities where the biological product is produced to assess compliance with cGMP, to assure that the facilities, methods and controls are adequate to preserve the biological product's identity, strength, quality and purity and, if applicable, the FDA's current good tissue practices ("CGTPs"), for the use of human cellular and tissue products;
- potential FDA audit of the nonclinical study and clinical trial sites that generated the data in support of the BLA in accordance with any applicable expedited programs or designations;
- review of the product candidate by an FDA advisory committee, where appropriate or if applicable;
- payment of user fees for FDA review of the BLA (unless a fee waiver applies); and
- FDA review and approval, or licensure, of the BLA.

Before testing any biological product candidate, including a gene therapy product, in humans, the product candidate enters the preclinical testing stage. Preclinical tests, also referred to as nonclinical studies, include laboratory evaluations of product biological characteristics, chemistry, toxicity, and formulation, as well as animal studies to assess the potential safety and activity of the product candidate. The conduct of the preclinical tests must comply with federal regulations and requirements including GLPs.

An IND is an exemption from the FD&C Act that allows an investigational product candidate to be shipped in interstate commerce for use in a clinical trial and a request for FDA authorization to administer such investigational product candidate to humans. Such authorization must be secured prior to interstate shipment and administration of any product candidate that is not the subject of an approved BLA. In support of a request for an IND, applicants must submit a protocol for each clinical trial and any subsequent protocol amendments must be submitted to the FDA as part of the IND. In addition, the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and plans for clinical trials, among other things, must be submitted to the FDA as part of an IND. The FDA requires a 30-day waiting period after the filing of each IND before clinical trials may begin. This waiting period is designed to allow the FDA to review the IND to determine whether human research subjects will be exposed to unreasonable health risks. At any time during this 30-day period the FDA may raise concerns or questions about the conduct of the trials as outlined in the IND and impose a clinical hold or partial clinical hold. In this case, the IND sponsor and the FDA must resolve any outstanding concerns before clinical trials can begin.

Following commencement of a clinical trial, the FDA may also place a clinical hold or partial clinical hold on that trial. A clinical hold is an order issued by the FDA to the sponsor to delay a proposed clinical investigation or to suspend an ongoing investigation. A partial clinical hold is a delay or suspension of only part of the clinical work requested under the IND. No more than 30 days after imposition of a clinical hold or partial clinical hold, the FDA will provide the sponsor a written explanation of the basis for the hold. Following issuance of a clinical hold or partial clinical hold, an investigation may only resume after the FDA has notified the sponsor that the investigation may proceed. There also are requirements governing the reporting of ongoing clinical trials and completed clinical trial results to public registries. Information about certain clinical trials, including clinical trial results, must be submitted within specific timeframes for publication on the www.clinicaltrials.gov website.

A sponsor may choose, but is not required, to conduct a foreign clinical trial under an IND. When a foreign clinical trial is conducted under an IND, all FDA IND requirements must be met unless waived. When a foreign clinical trial is not conducted under an IND, the sponsor must ensure that the study complies with certain regulatory requirements of the FDA in order to use the study as support for an IND or application for regulatory approval or licensing. In particular, such studies must be conducted in accordance with GCP, including review and approval by an independent ethics committee ("IEC"), and informed consent from subjects. The FDA must be able to validate the data through an onsite inspection, if deemed necessary by the FDA.

An IRB representing each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution, and the IRB must conduct continuing review and reapprove the study at least annually. The IRB must review and approve, among other things, the study protocol and informed consent information to be provided to study subjects. An IRB must operate in compliance with FDA regulations. An IRB can suspend or terminate approval of a clinical trial at its institution, or an institution it represents, if the clinical trial is not being conducted in accordance with the IRB's requirements or if the product candidate has been associated with unexpected serious harm to patients. Some trials are overseen by an independent group of qualified experts organized by the trial sponsor, known as a data safety monitoring board or committee ("DSMB"). This group provides authorization as to whether or not a trial may move forward at designated check points based on access that only the group maintains to available data from the study.

In addition to the submission of an IND to the FDA before initiation of a clinical trial in the United States, certain human clinical trials involving recombinant or synthetic nucleic acid molecules may be subject to oversight of institutional biosafety committees ("IBCs"), as set forth in the National Institutes of Health ("NIH"), Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules ("NIH Guidelines"). Under the NIH Guidelines, recombinant and synthetic nucleic acids are defined as: (i) molecules that are constructed by joining nucleic acid molecules that can replicate in a living cell (i.e., recombinant nucleic acids); (ii) nucleic acid molecules that are chemically or by other means synthesized or amplified, including those that are chemically or otherwise modified but can base pair with naturally occurring nucleic acid molecules (i.e., synthetic nucleic acids); or (iii) molecules that result from the replication of those described in (i) or (ii). Specifically, under the NIH Guidelines, supervision of human gene transfer trials includes evaluation and assessment by an IBC, a local institutional committee that reviews and oversees research utilizing recombinant or synthetic nucleic acid molecules at that institution. The IBC assesses the safety of the research and identifies any potential risk to public health or the environment, and such review may result in some delay before initiation of a clinical trial. While the NIH Guidelines are not mandatory unless the research in question is being conducted at or sponsored by institutions receiving NIH funding for recombinant or synthetic nucleic acid molecule research, many companies and other institutions not otherwise subject to the NIH Guidelines voluntarily follow them.

Clinical trials typically are conducted in three sequential phases that may overlap or be combined:

- Phase 1. The biological product candidate is initially introduced into healthy human subjects and tested for safety. In the case of some biological product candidates for severe or life-threatening diseases, especially when the product candidate may be too inherently toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in patients.
- Phase 2. The biological product candidate is evaluated in a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product candidate for specific targeted diseases and to determine dosage tolerance, optimal dosage and dosing schedule.
- Phase 3. Clinical trials are undertaken to further evaluate dosage, clinical efficacy, potency and safety in an expanded patient population at geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk/benefit ratio of the product candidate and provide an adequate basis for approval and product labeling.

Post-approval clinical trials, sometimes referred to as Phase 4 clinical trials, may be conducted after initial regulatory approval. These clinical trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication, particularly for long-term safety follow-up. The FDA generally recommends that sponsors of human gene therapy product candidates and genome editing product candidates observe subjects for potential gene therapy-related delayed adverse events for up to a 15-year period, including five years of annual examinations followed by ten years of annual queries, either by telephone or by questionnaire, of study subjects.

During all phases of clinical development, the FDA requires extensive monitoring and auditing of all clinical activities, clinical data, and clinical trial investigators. Annual progress reports detailing the results of the clinical trials must be submitted to the FDA. Written IND safety reports must be promptly submitted to the FDA and the investigators for serious and unexpected suspected adverse events, any findings from other studies, tests in laboratory animals or *in vitro* testing that suggest a significant risk for human subjects, or any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. The sponsor must submit an IND safety report within 15 calendar days after the sponsor determines that the information qualifies for reporting. The sponsor also must notify the FDA of any unexpected fatal or life-threatening suspected adverse reaction within seven calendar days after the sponsor's initial receipt of the information. The FDA or the sponsor, acting on its own or based on a recommendation from the sponsor's data safety monitoring board may suspend a clinical trial at any time on various grounds, including a finding that the research subjects are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the biological product candidate has been associated with unexpected serious harm to patients.

Concurrent with clinical trials, companies usually complete additional animal studies and also must develop additional information about the physical characteristics of the biological product candidate as well as finalize a process for manufacturing the product candidate in commercial quantities in accordance with cGMP. To help reduce the risk of the introduction of adventitious agents with use of biological product candidates, the PHS Act emphasizes the importance of manufacturing control for product candidates whose attributes cannot be precisely defined. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, the sponsor must develop methods for testing the identity, strength, quality, potency, and purity of the final biological product. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the biological product candidate does not undergo unacceptable deterioration over its shelf life.

U.S. Review and Approval Processes

After the completion of clinical trials of a biological product candidate, FDA approval of a BLA must be obtained before commercial marketing of the biological product. The BLA must include results of product development, laboratory and animal studies, human studies, information on the manufacture and composition of the product, proposed labeling and other relevant information. The testing and approval processes require substantial time and effort and there can be no assurance that the FDA will accept the BLA for filing and, even if filed, that any approval will be granted on a timely basis, if at all.

Within 60 days following submission of the application, the FDA reviews a BLA to determine if it is substantially complete before the FDA accepts it for filing. The FDA may refuse to file any BLA that it deems incomplete or not properly reviewable at the time of submission and may request additional information. In this event, the BLA must be resubmitted with the additional information. The resubmitted application also is subject to review before the FDA accepts it for filing. In most cases, the submission of a BLA is subject to a substantial application user fee, although the fee may be waived under certain circumstances. Under the performance goals and policies implemented by the FDA under the Prescription Drug User Fee Act ("PDUFA"), for original BLAs, the FDA targets ten months from the filing date in which to complete its initial review of a standard application and respond to the applicant, and six months from the filing date for an application with priority review. The FDA does not always meet its PDUFA goal dates, and the review process is often significantly extended by FDA requests for additional information or clarification. This review typically takes 12 months from the date the BLA is submitted to the FDA because the FDA has approximately two months to make a "filing" decision. The review process and the PDUFA goal date may be extended by three months if the FDA requests or the BLA sponsor otherwise provides additional information or clarification regarding information already provided in the submission within the last three months before the PDUFA goal date.

Once the submission is accepted for filing, the FDA begins an in-depth substantive review of the BLA. The FDA reviews the BLA to determine, among other things, whether the proposed product is safe, pure, and potent for its intended use, and whether the product is being manufactured in accordance with cGMP to ensure the continued safety, purity, and potency of such product. The FDA may refer applications for novel biological products or biological products that present difficult or novel questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation, and a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions. During the biological product approval process, the FDA also will determine whether a Risk Evaluation and Mitigation Strategy ("REMS"), is necessary to assure the safe use of the biological product. If the FDA concludes a REMS is needed, the sponsor of the BLA must submit a proposed REMS; the FDA will not approve the BLA without a REMS, if required.

Before approving a BLA, the FDA typically will inspect the facilities at which the product is manufactured. The FDA will not approve the product unless it determines that the manufacturing processes and facilities are in compliance with cGMP and adequate to assure consistent production of the product within required specifications. For a gene therapy product, the FDA also will not approve the product if the manufacturer is not in compliance with the CGTPs. These are FDA regulations that govern the methods used in, and the facilities and controls used for, the manufacture of human cells, tissues, and cellular and tissue-based products ("HCT/Ps"), which are human cells or tissue intended for implantation, transplant, infusion, or transfer into a human recipient. The primary intent of the CGTP requirements is to ensure that cell and tissue-based products are manufactured in a manner designed to prevent the introduction, transmission and spread of communicable disease. FDA regulations also require tissue establishments to register and list their HCT/Ps with the FDA and, when applicable, to evaluate donors through appropriate screening and testing. Additionally, before approving a BLA, the FDA will typically inspect one or more clinical sites to assure that the clinical trials were conducted in compliance with IND study requirements and GCP requirements. To assure cGMP, CGTP and GCP compliance, an applicant must incur significant expenditure of time, money, and effort in the areas of training, record keeping, production and quality control.

Under the Pediatric Research Equity Act ("PREA"), a BLA or supplement to a BLA for a novel product (e.g., new active ingredient, new indication, etc.) must contain data to assess the safety and effectiveness of the biological product for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA may grant deferrals for submission of data or full or partial waivers. Unless otherwise required by regulation, PREA does not apply to any biological product for an indication for which orphan designation has been granted.

After the FDA evaluates a BLA and conducts inspections of manufacturing facilities where the biological product will be manufactured, the FDA may issue an approval letter or a Complete Response Letter. An approval letter authorizes commercial marketing of the product with specific prescribing information for specific indications. A Complete Response Letter indicates that the review cycle of the application is complete, and the application will not be approved in its present form. A Complete Response Letter will usually describe all of the deficiencies that the FDA has identified in the BLA, except that where the FDA determines that the data supporting the application are inadequate to support approval, the FDA may issue the Complete Response Letter without first conducting required inspections, testing submitted product lots and/or reviewing proposed labeling. In issuing the Complete Response Letter, the FDA may recommend actions that the applicant might take to place the BLA in condition for approval, including requests for additional information or clarification, which may include the potential requirement for additional preclinical studies or clinical trials or additional manufacturing activities. If a Complete Response Letter is issued, the applicant may either resubmit the BLA, addressing all of the deficiencies identified in the letter, or withdraw the application or request an opportunity for a hearing. The

FDA may delay or refuse approval of a BLA if applicable regulatory criteria are not satisfied, require additional testing or information and/or require post-marketing testing and surveillance to monitor safety or efficacy of a product.

If a product receives regulatory approval, the approval may be significantly limited to specific diseases and dosages or the indications for use may otherwise be limited, including to subpopulations of patients, which could restrict the commercial value of the product. Further, the FDA may require that certain contraindications, warnings precautions or interactions be included in the product labeling. The FDA may impose restrictions and conditions on product distribution, prescribing or dispensing in the form of a REMS, or otherwise limit the scope of any approval. In addition, the FDA may require post-marketing clinical trials, sometimes referred to as Phase 4 clinical trials, designed to further assess a biological product's safety and effectiveness, and testing and surveillance programs to monitor the safety of approved products that have been commercialized.

Orphan Drug Designation

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biological product candidate intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States and for which there is no reasonable expectation that the cost of developing and making a drug or biological product candidate available in the United States for this type of disease or condition will be recovered from sales of the product. Orphan product designation must be requested before submitting a BLA. After the FDA grants orphan product designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA.

If a product candidate that has orphan drug designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to orphan drug exclusive approval (or exclusivity), which means that the FDA may not approve any other applications, including a full BLA, to market the same product for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity by means of greater effectiveness, greater safety or providing a major contribution to patient care or if the holder of the orphan drug exclusivity cannot assure the availability of sufficient quantities of the orphan drug to meet the needs of patients with the disease or condition for which the product was designated. Orphan drug exclusivity does not prevent the FDA from approving a different drug or biologic for the same disease or condition, or the same drug or biologic for a different disease or condition. Among the other benefits of orphan drug designation are tax credits for certain research and a waiver of the BLA application fee. A designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan drug designation. In addition, exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition.

Expedited Development and Review Programs

The FDA has various programs, including fast track designation, breakthrough therapy designation, priority review and accelerated approval, that are intended to expedite or simplify the process for the development and FDA review of drugs and biologics that are intended for the treatment of serious or life-threatening diseases or conditions. These programs do not change the standards for approval but may help expedite the development or approval process. To be eligible for fast track designation, new drugs and biological products must be intended to treat a serious or life-threatening condition and demonstrate the potential to address unmet medical needs for the condition. Fast track designation applies to the combination of the product and the

specific indication for which it is being studied. The sponsor of a new drug or biologic may request the FDA to designate the drug or biologic as a fast track product at any time during the clinical development of the product. One benefit of fast track designation, for example, is that the FDA may consider for review sections of the marketing application for a product that has received fast track designation on a rolling basis before the complete application is submitted.

Under the FDA's breakthrough therapy program, products intended to treat a serious or life-threatening disease or condition may be eligible for the benefits of the fast track program when preliminary clinical evidence demonstrates that such product may have substantial improvement on one or more clinically significant endpoints over existing therapies. Additionally, the FDA will seek to ensure the sponsor of a breakthrough therapy product receives timely advice and interactive communications to help the sponsor design and conduct a development program as efficiently as possible.

Any product is eligible for priority review if it has the potential to provide safe and effective therapy where no satisfactory alternative therapy exists or a significant improvement in the treatment, diagnosis or prevention of a disease compared to marketed products. The FDA will attempt to direct additional resources to the evaluation of an application for a new drug or biological product designated for priority review in an effort to facilitate the review. Under priority review, the FDA's goal is to review an application in six months once it is filed, compared to ten months for a standard review.

Additionally, a product may be eligible for accelerated approval. Drug or biological products studied for their safety and effectiveness in treating serious or life-threatening illnesses and that provide meaningful therapeutic benefit over existing treatments may receive accelerated approval, which means that they may be approved on the basis of adequate and well-controlled clinical trials establishing that the product has an effect on a surrogate endpoint that is reasonably likely to predict a clinical benefit, or on the basis of an effect on an intermediate clinical endpoint other than survival or irreversible morbidity. As a condition of approval, the FDA may require that a sponsor of a drug or biological product receiving accelerated approval perform adequate and well-controlled post-marketing clinical trials with due diligence, and, under the Food and Drug Omnibus Reform Act of 2022 ("FDORA"), the FDA is now permitted to require, as appropriate, that such trials be underway prior to approval or within a specific time period after the date of approval for a product granted accelerated approval. Under FDORA, the FDA has increased authority for expedited procedures to withdraw approval of a product or indication approved under accelerated approval if, for example, the confirmatory trial fails to verify the predicted clinical benefit of the product. In addition, for products being considered for accelerated approval, the FDA generally requires, unless otherwise informed by the agency, that all advertising and promotional materials intended for dissemination or publication be submitted to the agency for review, which could adversely affect the timing of the commercial launch of the product.

RMAT Designation

As part of the 21st Century Cures Act, Congress amended the FD&C Act to facilitate an efficient development program for and expedite review of regenerative medicine advanced therapies ("RMAT"), which include cell and gene therapies, therapeutic tissue engineering products, human cell and tissue products and combination products using any such therapies or products. RMAT do not include those HCT/Ps regulated solely under section 361 of the PHS Act and 21 CFR Part 1271. This program is intended to facilitate efficient development and expedite review of regenerative medicine therapies, which are intended to treat, modify, reverse, or cure a serious or life-threatening disease or condition and qualify for RMAT designation. A drug sponsor may request that FDA designate a drug as a RMAT concurrently with or at any time after submission of an IND. FDA has 60 calendar days to determine whether the drug meets the criteria, including whether there is preliminary clinical evidence indicating that the drug has the potential to address unmet medical needs for a serious or life-threatening disease

or condition. A BLA for a regenerative medicine therapy that has received RMAT designation may be eligible for priority review or accelerated approval through use of surrogate or intermediate endpoints reasonably likely to predict long-term clinical benefit, or reliance upon data obtained from a meaningful number of sites. Benefits of RMAT designation also include early interactions with FDA to discuss any potential surrogate or intermediate endpoint to be used to support accelerated approval. A regenerative medicine therapy with RMAT designation that is granted accelerated approval and is subject to post-approval requirements may fulfill such requirements through the submission of clinical evidence from clinical trials, patient registries, or other sources of real world evidence, such as electronic health records; the collection of larger confirmatory data sets; or post-approval monitoring of all patients treated with such therapy prior to its approval. Like some of the FDA's other expedited development programs, RMAT designation does not change the standards for approval but may help expedite the development or approval process.

Rare Pediatric Disease Designation and Priority Review Vouchers

Under the or FD&C Act, as amended, the FDA incentivizes the development of product candidates that meet the definition of a "rare pediatric disease," defined to mean a serious or life-threatening disease in which the serious of life-threatening manifestations primarily affect individuals aged from birth to 18 years and the disease affects fewer than 200,000 individuals in the United States or affects 200,000 or more in the United States and for which there is no reasonable expectation that the cost of developing and making in the United States a drug or biologic for such disease or condition will be received from sales in the United States of such drug or biologic. The sponsor of a product candidate for a rare pediatric disease may be eligible for a voucher that can be used to obtain a priority review for a subsequent marketing application after the date of approval of the rare pediatric disease drug product. A sponsor may request rare pediatric disease designation from the FDA prior to the submission of its BLA. A rare pediatric disease designation does not guarantee that a sponsor will receive a priority review voucher ("PRV") upon approval of its BLA. Moreover, a sponsor who chooses not to submit a rare pediatric disease designation request may nonetheless receive a PRV upon approval of their marketing application if they request such a voucher in their original marketing application and meet all of the eligibility criteria. If a PRV is received, it may be sold or transferred an unlimited number of times. Congress has extended the PRV program until September 30, 2024, with the potential for PRVs to be granted until September 30, 2026.

Post-Approval Requirements

Maintaining substantial compliance with applicable federal, state and local statutes and regulations requires the expenditure of substantial time and financial resources. Products manufactured or distributed pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting, product sampling and distribution, advertising and promotion and reporting of adverse experiences with the product. If there are any modifications to the product, including changes in indications, labeling or manufacturing processes or facilities, the applicant may be required to submit and obtain FDA approval of a new BLA or BLA supplement, which may require the development of additional data or preclinical studies and clinical trials. Such regulatory reviews can result in denial or modification of the planned changes, or requirements to conduct additional tests or evaluations that can substantially delay or increase the cost of the planned changes. The FDA may also impose a number of post-approval requirements as a condition of approval of a BLA. For example, the FDA may require post-marketing testing, including Phase 4 clinical trials, and surveillance to further assess and monitor the product's safety and effectiveness after commercialization.

Manufacturers of biological products are required to comply with applicable requirements in the cGMP, including quality control and quality assurance and maintenance of records and documentation. Other post-approval requirements applicable to biological products include reporting of cGMP deviations that may affect

the identity, potency, purity and overall safety of a distributed product, record-keeping requirements, reporting of adverse effects, reporting updated safety and efficacy information, and complying with electronic record and signature requirements. After a BLA is approved, the product also may be subject to official lot release. As part of the manufacturing process, the manufacturer is required to perform certain tests on each lot of the product before it is released for distribution. If the product is subject to official release by the FDA, the manufacturer submits samples of each lot of product to the FDA together with a release protocol showing a summary of the history of manufacture of the lot and the results of all of the manufacturer's tests performed on the lot. The FDA also may perform certain confirmatory tests on lots of some products, such as viral vaccines, before releasing the lots for distribution by the manufacturer. In addition, the FDA conducts laboratory research related to the regulatory standards on the safety, purity, potency, and effectiveness of biological products.

We also must comply with the FDA's advertising and promotion requirements, such as those related to direct-to-consumer advertising, the prohibition on promoting products for uses or in patient populations that are not described in the product's approved labeling (known as "off-label use"), industry-sponsored scientific and educational activities, and promotional activities involving the internet. Discovery of previously unknown problems or the failure to comply with the applicable regulatory requirements may result in restrictions on the marketing of a product or withdrawal of the product from the market as well as possible civil or criminal sanctions. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or after approval, may subject an applicant or manufacturer to administrative or judicial civil or criminal sanctions and adverse publicity. FDA sanctions could include refusal to approve pending applications, withdrawal of an approval, clinical holds, warning or untitled letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, mandated corrective advertising or communications with doctors or other stakeholders, debarment, restitution, disgorgement of profits, or civil or criminal penalties.

Biological product manufacturers and other entities involved in the manufacture and distribution of approved biological products, and those supplying products, ingredients, and components of them, are required to register their establishments with the FDA and certain state agencies and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP and other laws. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance. Discovery of problems with a product after approval may result in restrictions on a product, manufacturer, or holder of an approved BLA, including withdrawal of the product from the market. In addition, changes to the manufacturing process or facility generally require prior FDA approval before being implemented and other types of changes to the approved product, such as adding new indications and additional labeling claims, are also subject to further FDA review and approval.

U.S. Patent Term Restoration and Marketing Exclusivity

Depending upon the timing, duration, and specifics of the FDA approval of the use of our product candidates, some U.S. patents that may issue from our pending patent applications may be eligible for limited patent term extension under the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent restoration term of up to five years as compensation for patent term lost during product development and the FDA regulatory review process. However, patent term restoration cannot extend the remaining term of a patent beyond a total of 14 years from the product's approval date. The patent term restoration period is generally one-half the time between the effective date of an IND and the submission date of a BLA plus the time between the submission date of a BLA and the approval of that application, except that the review period is reduced by any time during which the applicant failed to exercise due diligence. Only one patent applicable to an approved biological product is eligible for the extension and the application for the extension must be submitted prior to

the expiration of the patent. In addition, only those claims covering the approved product, a method for using it, or a method for manufacturing it may be extended, and a patent can only be extended once and only for a single product. The USPTO, in consultation with the FDA, reviews and approves the application for any patent term extension or restoration. In the future, we may apply for restoration of patent term for one of the patents that may issue from our pending patent applications, if and as applicable, to add patent life beyond its current expiration date, depending on the expected length of the clinical trials and other factors involved in the filing of the relevant BLA. However, there can be no assurance that our pending patent applications will issue or that we will benefit from any patent term extension or favorable adjustments to the terms of any patents we may own or in-license in the future.

A biological product can obtain pediatric market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods and may be granted based on the voluntary completion of a pediatric study in accordance with an FDA-issued "Written Request" for such a study.

The Biologics Price Competition and Innovation Act of 2009 created an abbreviated approval pathway for biological products shown to be similar to, or interchangeable with, an FDA-licensed reference biological product. This amendment to the PHS Act attempts to minimize duplicative testing. Biosimilarity, which requires that there be no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and potency, can be shown through analytical studies, animal studies and a clinical trial or trials. Interchangeability requires that a product is biosimilar to the reference product and the product must demonstrate that it can be expected to produce the same clinical results as the reference product and, for products administered multiple times, the biologic and the reference biologic may be switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic.

A reference biological product is granted four- and 12-year exclusivity periods from the time of first licensure of the product. FDA will not accept an application for a biosimilar or interchangeable product based on the reference biological product until four years after the date of first licensure of the reference product, and FDA will not approve an application for a biosimilar or interchangeable product based on the reference biological product until twelve years after the date of first licensure of the reference product. "First licensure" typically means the initial date the particular product at issue was licensed in the United States. Date of first licensure does not include the date of licensure of (and a new period of exclusivity is not available for) a biological product if the licensure is for a supplement for the biological product or for a subsequent application by the same sponsor or manufacturer of the biological product (or licensor, predecessor in interest, or other related entity) for a change (not including a modification to the structure of the biological product) that results in a new indication, route of administration, dosing schedule, dosage form, delivery system, delivery device or strength, or for a modification to the structure of the biological product that does not result in a change in safety, purity, or potency. Therefore, one must determine whether a new product includes a modification to the structure of a previously licensed product that results in a change in safety, purity, or potency to assess whether the licensure of the new product is a first licensure that triggers its own period of exclusivity. Whether a subsequent application, if approved, warrants exclusivity as the "first licensure" of a biological product is determined on a case-by-case basis with data submitted by the sponsor.

Regulation Outside of the United States

In addition to regulations in the United States, we are subject to a variety of regulations in other jurisdictions governing clinical studies, commercial sales, and distribution of our products. Most countries outside of the United States require that clinical trial applications be submitted to and approved by the local regulatory authority for each clinical study. In the European Union, for example, an application must be submitted to the

national competent authority and an independent ethics committee in each country in which we intend to conduct clinical trials, much like the FDA and IRB, respectively. Under the new Clinical Trials Regulation (EU) No 536/2014, which replaced the Clinical Trials Directive 2001/20/EC on January 31, 2022, a single application is now made through the Clinical Trials Information System ("CTIS") for clinical trial authorization in up to 30 EU/EEA countries at the same time and with a single set of documentation.

The assessment of applications for clinical trials is divided into two parts (Part I contains scientific and medicinal product documentation and Part II contains the national and patient-level documentation). Part I is assessed by a coordinated review by the competent authorities of all European Union Member States in which an application for authorization of a clinical trial has been submitted (Member States concerned) of a draft report prepared by a Reference Member State. Part II is assessed separately by each Member State concerned. The role of the relevant ethics committees in the assessment procedure will continue to be governed by the national law of the Member State concerned, however overall related timelines are defined by the Clinical Trials Regulation. The new Clinical Trials Regulation also provides for simplified reporting procedures for clinical trial sponsors.

In addition, whether or not we obtain FDA approval for a product, we must obtain approval of a product by the comparable regulatory authorities of countries outside the United States before we can commence marketing of the product in those countries. The approval process and requirements vary from country to country, so the number and type of nonclinical, clinical, and manufacturing studies needed may differ, and the time may be longer or shorter than that required for FDA approval.

To obtain regulatory approval of our medicinal products under the European Union regulatory system, we are required to submit a marketing authorization application ("MAA"), to be assessed in the centralized procedure. The centralized procedure allows applicants to obtain a marketing authorization ("MA") that is valid throughout the European Union, and the additional Member States of the European Economic Area (Iceland, Liechtenstein and Norway) ("EEA"). It is compulsory for medicinal products manufactured using biotechnological processes, orphan medicinal products, advanced therapy medicinal products (gene-therapy, somatic cell-therapy or tissue-engineered medicines) and human products containing a new active substance which is not authorized in the European Union and which is intended for the treatment of HIV, AIDS, cancer, neurodegenerative disorders, auto-immune and other immune dysfunctions, viral diseases or diabetes. The centralized procedure is optional for any other products containing new active substances not authorized in the European Union or for products which constitute a significant therapeutic, scientific, or technical innovation or for which a centralized authorization is in the interests of patients at European Union level. When a company wishes to place on the market a medicinal product that is eligible for the centralized procedure, it sends an application directly to the European Medicines Agency ("EMA"), to be assessed by the Committee for Medicinal Products for Human Use ("CHMP"). The CHMP is responsible for conducting the assessment of whether a medicine meets the required quality, safety, and efficacy requirements, and whether the product has a positive risk/benefit profile. The procedure results in a European Commission decision, which is valid in all European Union Member States. The centralized procedure is as follows: full copies of the MAA are sent to a rapporteur and a co-rapporteur designated by the competent EMA scientific committee. They coordinate the EMA's scientific assessment of the medicinal product and prepare draft reports. Once the draft reports are prepared (other experts might be called upon for this purpose), they are sent to the CHMP, whose comments or objections are communicated to the applicant. The rapporteur is therefore the privileged interlocutor of the applicant and continues to play this role, even after the MA has been granted.

The rapporteur and co-rapporteur then assess the applicant's replies, submit them for discussion to the CHMP, and taking into account the conclusions of this debate, prepare a final assessment report. Once the evaluation is completed, the CHMP gives a favorable or unfavorable opinion as to whether to grant the authorization. When the opinion is favorable, it shall include the draft summary of product characteristics ("SmPC"), the

package leaflet, and the texts proposed for the various packaging materials. The time limit for the evaluation procedure is 210 days (excluding clock stops, when additional written or oral information is to be provided by the applicant in response to questions asked by the CHMP). The EMA then has fifteen days to forward its opinion to the European Commission, which will make a binding decision on the grant of an MA within 67 days of the receipt of the CHMP opinion.

There are two other procedures in the European Union for the grant of an MA in multiple European Union Member States. The decentralized procedure provides for approval by one or more other, or Concerned Member States, of an assessment of an application performed by one Member State, known as the Reference Member State. Under this procedure, an applicant submits an application, or dossier, and related materials including a draft SmPC, and draft labeling and package leaflet, to the Reference Member State and Concerned Member States. The Reference Member State prepares a draft assessment and drafts of the related materials within 120 days after receipt of a valid application. Within 90 days of receiving the Reference Member State's assessment report, each Concerned Member State must decide whether to approve the assessment report and related materials. If a Member State cannot approve the assessment report and related materials on the grounds of potential serious risk to the public health, the disputed points may eventually be referred to the European Commission, whose decision is binding on all Member States. Where a product has already been authorized for marketing in a European Union Member State, this national MA can be recognized in other Member States through the mutual recognition procedure.

The criteria for designating an "orphan medicinal product" in the European Union are similar in principle to those in the United States. Under Article 3 of Regulation (EC) 141/2000, a medicinal product may be designated as an orphan medicinal product if it is intended for the diagnosis, prevention, or treatment of a life-threatening or chronically debilitating condition that affects no more than five in 10,000 persons in the European Union when the application is made. In addition, orphan designation can be granted if the product is intended for a life threatening, seriously debilitating, or serious and chronic condition in the European Union and, without incentives, it is unlikely that sales of the product in the European Union would be sufficient to justify the necessary investment in its development. Orphan designation is only available if there is no other satisfactory method approved in the European Union of diagnosing, preventing, or treating the applicable orphan condition, or if such a method exists, the proposed orphan medicinal product will be of significant benefit to patients affected by such condition, as defined in Regulation (EC) 847/2000.

Orphan designation provides opportunities for fee reductions, protocol assistance, and access to the centralized procedure. Fee reductions are limited to the first year after an MA, except for small and medium enterprises. In addition, if a product which has an orphan designation subsequently receives a centralized MA for the indication for which it has such designation, the product is entitled to orphan market exclusivity, which means the EMA may not approve any other application to market a similar medicinal product for the same indication for a period of ten years. A "similar medicinal product" is defined as a medicinal product containing a similar active substance or substances as contained in an authorized orphan medicinal product, and which is intended for the same therapeutic indication. The exclusivity period may be reduced to six years if, at the end of the fifth year, it is shown that the designation criteria are no longer met, including where it is shown that the product is sufficiently profitable not to justify maintenance of market exclusivity. Additionally, an MA may be granted to a similar medicinal product for the same indication at any time if:

- the second applicant can establish that its product, although similar to the authorized product, is safer, more effective or otherwise clinically superior;
- the MA holder of the authorized product consents to a second orphan medicinal product application; or
- the MA holder of the authorized product cannot supply enough orphan medicinal product.

A pediatric investigation plan ("PIP"), in the European Union is aimed at ensuring that the necessary data are obtained to support the authorization of a medicine for children, through studies in children. All applications for Mas for new medicines have to include the results of studies as described in an agreed PIP, unless the medicine is exempt because of a deferral or waiver. This requirement also applies when an MA holder wants to add a new indication, pharmaceutical form, or route of administration for a medicine that is already authorized and covered by intellectual property rights. Several rewards and incentives for the development of pediatric medicines for children are available in the European Union. Medicines authorized across the European Union with the results of studies from a PIP included in the product information are eligible for an extension of their supplementary protection certificate ("SPC") by six months (provided an application for such extension is made at the same time as filing the SPC application for the product, or at any point up to two years before the SPC expires). This is the case even when the studies' results are negative. For orphan medicinal products, the incentive is an additional two years of market exclusivity. Scientific advice and protocol assistance at the EMA are free of charge for questions relating to the development of pediatric medicines. Medicines developed specifically for children that are already authorized but are not protected by a patent or supplementary protection certificate are eligible for a pediatric-use MA ("PUMA"). If a PUMA is granted, the product will benefit from ten years of market protection as an incentive.

In March 2016, the EMA launched an initiative, the PRIority Medicines ("PRIME") scheme, to facilitate development of product candidates in indications, often rare, for which few or no therapies currently exist. The PRIME scheme is intended to encourage development of products in areas of unmet medical need and provides accelerated assessment of products representing substantial innovation reviewed under the centralized procedure. Products from small- and medium-sized enterprises may qualify for earlier entry into the PRIME scheme than larger companies on the basis of compelling non-clinical data and tolerability data from initial clinical trials. Many benefits accrue to sponsors of product candidates with PRIME designation, including but not limited to, early and proactive regulatory dialogue with the EMA, frequent discussions on clinical trial designs and other development program elements, and potentially accelerated MAA assessment once a dossier has been submitted. Importantly, once a candidate medicine has been selected for the PRIME scheme, a dedicated contact and rapporteur from the CHMP or from the Committee for Advanced Therapies ("CAT") are appointed early in the PRIME scheme facilitating increased understanding of the product at EMA's committee level. An initial meeting with the CHMP/CAT rapporteur initiates these relationships and includes a team of multidisciplinary experts at the EMA to provide guidance on the overall development and regulatory strategies. PRIME eligibility does not change the standards for product approval, and there is no assurance that any such designation or eligibility will result in expedited review or approval.

The aforementioned European Union rules are generally applicable in the EEA.

The United Kingdom left the European Union on January 31, 2020, and the United Kingdom and the European Union have concluded a trade and cooperation agreement ("TCA") which was provisionally applicable since January 1, 2021 and has been formally applicable since May 1, 2021.

The TCA includes specific provisions concerning pharmaceuticals, which include the mutual recognition of GMP, inspections of manufacturing facilities for medicinal products and GMP documents issued, but does not provide for wholesale mutual recognition of United Kingdom and European Union pharmaceutical regulations. At present, Great Britain has implemented European Union legislation on the marketing, promotion and sale of medicinal products through the Human Medicines Regulations 2012 (as amended). Except in respect of the new European Union Clinical Trials Regulation, the regulatory regime in Great Britain therefore largely aligns with current European Union medicines regulations, however it is possible that these regimes will diverge more significantly in future now that Great Britain's regulatory system is independent from the European Union and the TCA does not provide for mutual recognition of United Kingdom and European Union pharmaceutical

legislation. However, notwithstanding that there is no wholesale recognition of European Union pharmaceutical legislation under the TCA, under a new framework mentioned below which will be put in place by the Medicines and Healthcare products Regulatory Agency ("MHRA"), the United Kingdom's medicines regulator, from January 1, 2024, the MHRA has stated that it will take into account decisions on the approval of Mas from the EMA (and certain other regulators) when considering an application for a Great Britain MA.

On February 27, 2023, the United Kingdom government and the European Commission announced a political agreement in principle to replace the Northern Ireland Protocol with a new set of arrangements, known as the "Windsor Framework". This new framework fundamentally changes the existing system under the Northern Ireland Protocol, including with respect to the regulation of medicinal products in the United Kingdom. In particular, the MHRA will be responsible for approving all medicinal products destined for the United Kingdom market (i.e., Great Britain and Northern Ireland), and the EMA will no longer have any role in approving medicinal products destined for Northern Ireland. A single United Kingdom-wide MA will be granted by the MHRA for all medicinal products to be sold in the United Kingdom, enabling products to be sold in a single pack and under a single authorization throughout the United Kingdom. The Windsor Framework was approved by the European Union-United Kingdom Joint Committee on March 24, 2023, so the United Kingdom government and the European Union will enact legislative measures to bring it into law.

The MHRA has introduced changes to national licensing procedures, including procedures to prioritize access to new medicines that will benefit patients, an accelerated assessment procedure and new routes of evaluation for novel products and biotechnological products. All existing European Union Mas for centrally authorized products were automatically converted (grandfathered) into United Kingdom Mas free of charge on January 1, 2021. For a period of three years from January 1, 2021, the MHRA may rely on a decision taken by the European Commission on the approval of a new MA in the centralized procedure, in order to more quickly grant a new Great Britain MA. A separate application will, however, still be required. On January 24, 2023, the MHRA announced that a new international recognition framework will be put in place from January 1, 2024, which will have regard to decisions on the approval of Mas made by the EMA and certain other regulators when determining an application for a new Great Britain MA. There is now no pre-MA orphan designation in Great Britain. Instead, the MHRA reviews applications for orphan designation in parallel to the corresponding MAA. The criteria are essentially the same, but have been tailored for the Great Britain market, i.e., the prevalence of the condition in Great Britain (rather than the European Union) must not be more than five in 10,000. Should an orphan designation be granted, the period of market exclusivity will be set from the date of first approval of the product in Great Britain.

Other Healthcare Laws and Compliance Requirements

Other Healthcare Laws

Biotechnology companies are subject to additional healthcare laws in the jurisdictions in which they conduct their business that may constrain the financial arrangements and relationships through which we research, as well as, in the future sell, market and distribute any products for which we obtain regulatory approval. Such laws include, without limitation, state and federal patient data privacy and security laws, federal and state anti-kickback laws, physician-self referral laws, false claims and transparency laws and regulations with respect to drug pricing and payments and other transfers of value made to physicians and other health care providers, and similar healthcare laws and regulations in the EU and other jurisdictions. Violations of any of such laws or any other governmental regulations that apply may result in significant penalties, including, without limitation, administrative, civil and criminal penalties, damages, fines, disgorgement, the curtailment or restructuring of operations, integrity oversight and reporting obligations to resolve allegations of noncompliance, and exclusion from participation in federal and state healthcare programs and imprisonment.

Coverage and Reimbursement

Sales of any product depend, in part, on the extent to which such product will be covered by third-party payors, such as federal, state, and foreign government healthcare programs, commercial insurance and managed healthcare organizations, and the level of reimbursement for such product by third-party payors. Decisions regarding the extent of coverage and amount of reimbursement to be provided are made on a plan-by-plan basis. These third-party payors are increasingly reducing coverage and reimbursement for medical products, drugs and services. For products administered under the supervision of a physician, obtaining coverage and adequate reimbursement may be particularly difficult because of the higher prices often associated with such drugs. Additionally, separate reimbursement for the product itself or the treatment or procedure in which the product is used may not be available, which may impact physician utilization.

The U.S. government, state legislatures and foreign governments have also continued implementing cost-containment programs, including price controls, restrictions on coverage and reimbursement and requirements for substitution of generic (or biosimilar) products. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit sales of any product. Decreases in third-party reimbursement for any product or a decision by a third-party payor not to cover a product could reduce physician usage and patient demand for the product and also have a material adverse effect on sales.

Healthcare Reform

In the United States, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, each as amended, collectively known as the ACA, was enacted, which substantially changed the way healthcare is financed by both governmental and private insurers, and significantly affected the pharmaceutical industry. The ACA contained a number of provisions, including those governing enrollment in federal healthcare programs, reimbursement adjustments and changes to fraud and abuse laws. Since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA. Other legislative changes have been proposed and adopted since the ACA was enacted, including aggregate reductions of Medicare payments to providers of 2% per fiscal year.

Additionally, President Biden has issued multiple executive orders that have sought to reduce prescription drug costs. There has also been increasing legislative and enforcement interest in the United States with respect to drug pricing practices. Specifically, there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several U.S. Congressional inquiries and proposed and enacted federal and state legislation. The Inflation Reduction Act of 2022 (“IRA”), includes several provisions that impact the pharmaceutical industry, including provisions that reduce the out-of-pocket spending cap for Medicare Part D beneficiaries to $2,000 starting in 2025; impose new manufacturer financial liability on certain drugs under Medicare Part D, allow the U.S. government to negotiate Medicare Part B and Part D price caps for certain high-cost drugs and biologics without generic or biosimilar competition; require companies to pay rebates to Medicare for drug prices that increase faster than inflation; and delay until January 1, 2032 the implementation of the HHS rebate rule that would have limited the fees that pharmacy benefit managers can charge. Further, under the IRA, orphan drugs are exempted from the Medicare drug price negotiation program, but only if they have one orphan designation and for which the only approved indication is for that disease or condition. If a product receives multiple orphan designations or has multiple approved indications, it may not qualify for the orphan drug exemption. The effects of the IRA on our business and the healthcare industry in general is not yet known.

We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could impact the amounts that federal and state governments and other third-party payors will pay for healthcare products and services.

Data Privacy & Security

Numerous state, federal and foreign laws govern the collection, dissemination, use, access to, confidentiality and security of personal information, including health-related information. As our operations and business grow, we may become subject to or affected by U.S. federal and state laws and regulations, including the Health Information Portability and Accountability Act of 1996, and its implementing regulations, as amended ("HIPAA"), that govern the collection, use, disclosure, and protection of health-related and other personal information. In California the California Consumer Protection Act ("CCPA"), which went into effect on January 1, 2020 and was amended effective January 1, 2023, establishes a new privacy framework for covered businesses by creating an expanded definition of personal information, establishing new data privacy rights for consumers in the State of California, imposing special rules on the collection of consumer data from minors, and creating a new and potentially severe statutory damages framework for violations of the CCPA and for businesses that fail to implement reasonable security procedures and practices to prevent data breaches. While clinical trial data and information governed by HIPAA are currently exempt from the current version of the CCPA, other personal information may be applicable and possible changes to the CCPA may broaden its scope. Other states, including Virginia (effective January 1, 2023), Colorado (effective July 1, 2023), Connecticut (effective July 1, 2023), and Utah (effective December 31, 2023) have passed privacy legislation and more states may do so in the future, including Iowa, where the Iowa state legislature passed a comprehensive privacy legislation on March 15, 2023. State and non-U.S. laws, including for example the EU General Data Protection Regulation, also govern the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts. Failure to comply with these laws, where applicable, can result in the imposition of significant civil and/or criminal penalties and private litigation. Privacy and security laws, regulations, and other obligations are constantly evolving, may conflict with each other to complicate compliance efforts, and can result in investigations, proceedings, or actions that lead to significant civil and/or criminal penalties and restrictions on data processing.

Employees and Human Capital Resources

As of September 30, 2023, we had 223 full-time employees, of which 74 have M.D. or Ph.D. degrees. Within our workforce, 187 employees are engaged in research and development and 36 are engaged in business development, finance, legal, and general management and administration. None of our employees are represented by labor unions or covered by collective bargaining agreements. We consider our relationship with our employees to be good.

Our human capital resources objectives include, as applicable, identifying, recruiting, retaining, incentivizing and integrating our existing and new employees, advisors and consultants. The principal purposes of our equity incentive plans are to attract, retain and reward personnel through the granting of equity-based compensation awards in order to increase shareholder value and the success of our company by motivating such individuals to perform to the best of their abilities and achieve our objectives.

Facilities

Our corporate headquarters is located in Emeryville, California, where we lease and occupy approximately 23,851 square feet of laboratory and office space at 1545 Park Avenue, Emeryville, California 94608. The current term of our lease expires in February 2031. The company also leases approximately 23,155 square feet of office space at 1485 Park Avenue, Emeryville, California 94608 and subleases approximately 75,662 square feet of combined office, research and laboratory space at 5959 Horton Street, Emeryville, California 94608.

We believe that our facilities are adequate for our current needs and for the foreseeable future. To meet the future needs of our business, we may lease additional or alternate space. We believe that suitable additional or substitute space at commercially reasonable terms will be available as needed to accommodate any future expansion of our operations.

Legal proceedings

From time to time, we may become involved in legal proceedings arising from the ordinary course of business. We record a liability for such matters when it is probable that future losses will be incurred and that such losses can be reasonably estimated. Significant judgment by us is required to determine both probability and the estimated amount. Our management is currently not aware of any legal matters that could have a material adverse effect on our financial position, results of operations or cash flows.

MANAGEMENT

The following table sets forth information about our executive officers and directors as of the date of this prospectus.

Name	Age	Position(s)
Executive Officers		
Brian C. Thomas, Ph.D.	55	Chief Executive Officer
Jian Irish, Ph.D., MBA	60	President and Chief Operating Officer
Pamela Wapnick	58	Chief Financial Officer
Sarah Noonberg, M.D., Ph.D.	56	Chief Medical Officer
Simon Harnest, M.Sc	37	Chief Investment Officer and Senior Vice President of Strategy
Luis G. Borges, Ph.D.	61	Chief Scientific Officer
Simren Delaney, Ph.D., LLM	38	Vice President of Legal
Non-Employee Directors		
Juergen Eckhardt, M.D., MBA	57	Director
Sebastián Bernales, Ph.D.	48	Director
Risa Stack, Ph.D. (1)	55	Director
Willard Dere, M.D.	69	Director
Santhosh Palani, Ph.D. (2)	41	Director
Other Key Personnel		
Christopher T. Brown, Ph.D.	35	Vice President of Discovery
Michael Conway, MBA, CPA	48	Vice President of Finance
Alan Brooks, Ph.D.	58	Senior Vice President of Preclinical

(1) Dr. Stack has notified us that she will resign from our board of directors effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part.
(2) Dr. Palani has notified us that he will resign from our board of directors effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part.

The following is a biographical summary of the experience of our executive officers and directors. There are no family relationships among any of our executive officers or directors.

Executive Officers

Brian C. Thomas, Ph.D., is our founder and has served as our Chief Executive Officer since September 2016. Since December 2022, Dr. Thomas has served as Chairman of the Board of Directors of Haya Therapeutics, Inc. Previously, from 2001 to 2017, Dr. Thomas served as a program manager at University of California, Berkeley. From 1999 to 2001, Dr. Thomas served as a lead bioinformatics scientist at EOS Biotechnology (now PDL, Inc.). Dr. Thomas received his B.Sc. in cellular biology and his Ph.D. in biochemistry from University of Kansas and completed his post-doctoral research in computational biology at University of California, Berkeley.

Our board of directors believes that Dr. Thomas is qualified to serve as a director because of his considerable academic and research expertise, as well as his expansive knowledge about our Company as our founder and Chief Executive Officer.

Jian Irish, Ph.D., MBA, has served as our President since November 2021 and our Chief Operating Officer since January 2021. Prior to joining us, Dr. Irish held positions as Senior Vice President, Global Head of Manufacturing and Senior Vice President of Supply Chain at Kite Pharma (now a subsidiary of Gilead) from September 2016 to December 2020. Dr. Irish served as Interim Chief Operating Officer of Affini-T Therapeutics from January 2021 to January 2022. Dr. Irish also served as Interim Chief Technology Officer and a board member for Fosun Kite, a joint venture between Kite Pharma and Fosun Pharma, from October 2018 to April 2020. From December 2014 to August 2016, Dr. Irish held positions as Vice President of Biologics Supply, Outsourcing, Partnerships, and External Manufacturing and Vice President of Product Development at Sanofi. From January 2000 to September 2014, Dr. Irish held various leadership positions at Amgen in operations, including Executive Director of JAPAC Supply, Executive Director of Contract Manufacturing, Officer for Kirin-Amgen JV, and Global Operations Team Leader. Dr. Irish currently serves as an advisor to Ori Biotech, ORCA Biosystems, and ViTToria Biotherapeutics. Dr. Irish received a B.S. in chemical engineering from East China University of Science and Technology, an M.S. and Ph.D. in pharmaceutical sciences from Chiba University, and an MBA from University of California, Los Angeles, Anderson School of Management.

Pamela Wapnick, has served as our Chief Financial Officer since September 2023. Prior to joining us, Ms. Wapnick served as Chief Financial Officer of Diality Inc. from June 2022 to September 2023, as Chief Financial Officer of Capsida Biotherapeutics from November 2019 to June 2022, and as Chief Financial Officer of Graybug Vision from December 2017 to October 2019. Prior to these roles, Ms. Wapnick served as Chief Financial Officer of True North Therapeutics and held various positions at Amgen Inc. (Nasdaq: AMGN). Ms. Wapnick received her B.A. in economics from Wellesley College and her MBA in finance from Columbia Business School.

Sarah Noonberg, M.D., Ph.D., has served as our Chief Medical Officer since January 2023. Prior to joining us, Dr. Noonberg served as the Chief Medical Officer at Maze Therapeutics, Nohla Therapeutics and Prothena Corporation plc (Nasdaq: PRTA) from July 2020 to September 2022, May 2018 to May 2019 and May 2017 to May 2018, respectively. Dr. Noonberg served as Group Vice President and Head of Global Clinical Development at BioMarin Pharmaceuticals Inc. (Nasdaq: BMRN) from August 2015 to March 2017. From May 2007 to August 2015, she held several positions at Medivation, Inc., a biopharmaceutical company, culminating in the position of Senior Vice President of Early Development. Dr. Noonberg currently serves on the board of directors of Neurogene Inc. (Nasdaq: NGNE) and Marinus Pharmaceuticals (Nasdaq: MRNS). She has also previously served on the board of directors of Neoleukin Therapeutics (Nasdaq: NLTX) and Protagonist Therapeutics, Inc. (Nasdaq: PTGX) from August 2019 to December 2023 and December 2017 to May 2023, respectively. Dr. Noonberg received her B.S. in engineering at Dartmouth College, her Ph.D. in bioengineering from the University of California, Berkeley and her M.D. from the University of California, San Francisco. Dr. Noonberg is a board-certified internist and completed her residency at Johns Hopkins Hospital.

Simon Harnest, M.Sc, has served as our Chief Investment Officer and Senior Vice President of Strategy since July 2021. Prior to joining us, Mr. Harnest held various positions, most recently as Chief Investment Officer and Senior Vice President of Strategy and Finance, at Cellectis Inc. from April 2015 to July 2021. Mr. Harnest also served as Vice President, Corporate Strategy and Finance at Calyxt from March 2016 to December 2019. Mr. Harnest received his B.Sc in economics from University of Westminster, Westminster Business School and his M.Sc in social studies from London School of Economics, London.

Luis G. Borges, Ph.D., has served as our Chief Scientific Officer since joining Metagenomi in August 2023. Prior to this, Dr. Borges served as Chief Scientific Officer at Century Therapeutics, Inc. (Nasdaq: IPSC) from April 2019 to July 2023 and as Chief Scientific Officer at Cell Medica Limited from August 2017 to March 2019. Dr. Borges

served in positions of increasing responsibility at Five Prime Therapeutics, Inc. from 2014 to 2017, most recently as Senior Vice President of Research. Dr. Borges also served in positions of increasing responsibility at Amgen Inc. (Nasdaq: AMGN) from 2002 to 2014. Dr. Borges received a B.S. in marine biology from the University of Lisbon and a Ph.D. in pathology from the University of Washington.

Simren Delaney, Ph.D., LLM, has served as our Vice President of Legal since February 2020 and previously served as our Chief of Staff from January 2022 to December 2022. Prior to joining us, Dr. Delaney was an associate at Wilson Sonsini Goodrich & Rosati from October 2016 to February 2020. Dr. Delaney received her B.Sc in science, LL.B. and Ph.D. in organic chemistry from Deakin University, and her LL.M. from University of California, College of the Law, San Francisco.

Non-Employee Directors

Juergen Eckhardt, M.D., MBA, has served as our Chairman of the Board of Directors since September 2020. Dr. Eckhardt has served as Head of Leaps at Bayer AG since February 2019 and previously served as Head of Venture Investments from September 2016 to February 2019. He currently serves on the boards of Dewpoint Therapeutics, Khloris Biosciences, Oerth Bio, and a few other private biotechnology companies and foundations. Previously, Dr. Eckhardt served as a management consultant and Associate Partner at McKinsey & Co. and a member of McKinsey's Healthcare Leadership Team from 1994 to 2002. Dr. Eckhardt received his M.D. from the University of Basel and his MBA from INSEAD in Fontainebleau, France.

Our board of directors believes that Dr. Eckhardt is qualified to serve as a director because of his extensive experience in strategy, finance, leadership and drug development.

Sebastián Bernales, Ph.D., has served on our board of directors since December 2020 and previously served as a Director of Metagenomi, Inc. from September 2016 to April 2020. Dr. Bernales has been a General Partner at Humboldt Fund since February 2020 and has been a Venture Partner at DROIA Ventures since August 2020. He has served as the Chief Executive Officer of Praxis Biotech LLC since July 2016 and a member of Sake Holdings LLC since May 2020. Dr. Bernales is also the founder of Merken Biotech. Dr. Bernales is a member of the boards of directors of PhageLab, Botanical Solutions, Momentum, Vedra, Alesta, and a few other private biotechnology companies and foundations. Dr. Bernales currently serves as an advisor to NotCo, Levita Magnetics, and Leyden Labs. From 2007 to 2016, Dr. Bernales worked at Medivation Inc., culminating in the position of Vice President of Discovery Biology. He received his B.S. from Catholic University in Chile and his Ph.D. in cell biology at the University of California in San Francisco. He completed his postdoctoral training at the University of California in San Francisco.

Our board of directors believes that Dr. Bernales is qualified to serve as a director because of his significant experience in biotechnology industry.

Risa Stack, Ph.D., has served on our board of directors since April 2022. Dr. Stack has been a Partner at The Production Board since May 2022. Previously, Dr. Stack was a Venture Partner at RA Capital from September 2020 to March 2022. Dr. Stack was a founder and served as Chairperson of Menlo Microsystems from December 2016 to September 2018, and served as a General Manager at General Electric from January 2013 to September 2018. Dr. Stack was a Partner at Kleiner Perkins from June 2003 to December 2012. Before joining Kleiner Perkins, Dr. Stack was a Principal at JP Morgan Partners from September 1996 to May 2003. Dr. Stack currently serves on the Board of Directors of COPD Foundation. Dr. Stack received her B.S. in genetics and development from the University of Illinois and her Ph.D. in immunology from the University of Chicago. Dr. Stack was a member of the second class of Kauffman Fellows.

Our board of directors believes that Dr. Stack is qualified to serve as a director because of her extensive investment experience, knowledge of financial markets and expertise in personalized medicine, therapeutics and platform technology companies.

Dr. Stack has notified us that she will resign from our board of directors effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part.

Willard Dere, M.D., has served on our board of directors since August 2021. Dr. Dere currently serves as Chief Advisor and Chief Medical Officer at Angitia since July 2022, and on the board of directors of BioMarin, Seres and Mersana. He also serves on the Scientific Advisory Boards of Surrozen, AliveGen and Heranova Lifesciences Dr. Dere served as a Professor of Internal Medicine from November 2014 to July 2022 at the University of Utah School of Medicine, and is currently Professor Emeritus, a position he has held since July 2022. Dr. Dere also served as Associate Vice President for Research, Co-Director of The Center for Genomic Medicine and Co-Director of the Utah Clinical and Translational Science Institute at the University of Utah Health Sciences Center during this time period. Before joining the University of Utah, Dr. Dere held various positions at Amgen, Inc., including Senior Vice President of Global Development and Corporate, then International Chief Medical Officer, from July 2003 to October 2014. From 1989 to 2003, Dr. Dere held multiple positions in clinical research, and regulatory affairs and safety at Eli Lilly and Company. He was also an assistant professor from 1989 to 1999 and a clinical associate professor from 1999 to 2009 at the Indiana University School of Medicine. Dr. Dere received his B.A. in history, zoology and M.D. from the University of California, Davis; he completed his postdoctoral training at the University of Utah in internal medicine, and at the University of California, San Francisco in endocrinology and metabolism.

Our board of directors believes that Dr. Dere is qualified to serve as a director because of extensive experience in drug development, and as a board of directors member on several public companies.

Santhosh Palani, Ph.D., has served on our board of directors since January 2022. Dr. Palani is currently an investment partner at PFM Health Sciences since June 2020. He was a Principal at New Enterprise Associates from May 2018 to May 2020. From 2016 to 2018, Dr. Palani was a Vice President at Cowen and Company. He previously served as an Associate Director in Oncology Clinical Development at Pfizer from 2013 to 2016 and as a Scientist in Oncology Preclinical Development at Takeda Pharmaceuticals from 2012 to 2013. Dr. Palani currently serves on the Board of Directors of Turnstone Biologics. Dr. Palani received his B.S. and M.S. in chemical engineering from the University of Madras and Texas A&M University, respectively. Dr. Palani received his Ph.D. in Bioengineering from the University of Pennsylvania and completed his postdoctoral work in biochemistry and molecular biophysics at Columbia University. Dr. Palani is a CFA® Charterholder.

Our board of directors believes that Dr. Palani is qualified to serve as a director because of his strong financial background and significant industry experience in the fields of internal medicine and endocrinology.

Dr. Palani has notified us that he will resign from our board of directors effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part.

Other Key Personnel

Alan Brooks, Ph.D., has served as our Senior Vice President of Preclinical since January 2023 and previously served as our Director of Preclinical and Vice President of Preclinical from November 2019 to January 2023. Prior to joining us, Dr. Brooks served as a principal scientist at Casebia Therapeutics from August 2017 to August 2019. From October 2007 to August 2017, Dr. Brooks held various positions at Bayer AG, including scientist, senior scientist and principal scientist. Dr. Brooks received his B.Sc in biological sciences from University of Leicester, UK and his Ph.D. in molecular and developmental biology from University of Warwick, UK. He completed his postdoctoral fellowship at the Gladstone Institute/University of California, San Francisco.

Michael Conway, MBA, CPA, has served as our Vice President of Finance since March 2022. Prior to joining us, Mr. Conway served as Senior Director of Financial Planning and Analysis and Vice President of Finance at

Adamas Pharmaceuticals, Inc. from March 2016 to December 2021, where he was responsible for leading the accounting and financial planning and analysis functions. Mr. Conway received his BBA in management information systems from University of Notre Dame, his MBA from University of Michigan, Ross School of Business, and is a certified public accountant in the state of California.

Christopher T. Brown, Ph.D., has served as our Vice President of Discovery since January 2023 and previously served as our Senior Bioinformatics Scientist, Director of Discovery and Senior Director of Discovery from September 2018 to December 2022. Prior to joining us, Dr. Brown conducted post-doctoral research at the University of California, Berkeley from January 2017 to August 2018. He received his B.Sc in microbiology from the University of Florida and his Ph.D. in plant and microbial biology from the University of California, Berkeley.

Board Composition

Our board of managers currently consists of 6 members, each of whom is a member pursuant to the board composition provisions of our current certificate of incorporation and agreements with our stockholders, which agreements are described in the section of this prospectus entitled “Certain Relationships and Related Person Transactions.” These board composition provisions will terminate upon the closing of this offering. Upon the termination of these provisions, there will be no further contractual obligations regarding the election of our directors. Our nomination and corporate governance committee and our board of directors may therefore consider a broad range of factors relating to the qualifications and background of nominees. Our nomination and corporate governance committee’s and our board of directors’ priority in selecting board members is identification of persons who will further the interests of our stockholders through their established record of professional accomplishment, the ability to contribute positively to the collaborative culture among board members, knowledge of our business, understanding of the competitive landscape, professional and personal experiences and expertise relevant to our growth strategy. Our directors hold office until their successors have been elected and qualified or until their earlier resignation or removal. Our amended and restated certificate of incorporation and amended and restated bylaws that will become effective upon the closing of this offering also provide that our directors may be removed only for cause by the affirmative vote of the holders of at least two-thirds of the votes that all our stockholders would be entitled to cast in an annual election of directors, and that any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office.

Staggered Board

In accordance with the terms of our amended and restated certificate of incorporation and our amended and restated bylaws that will become effective upon the closing of this offering, our board of directors will be divided into three staggered classes of directors and each director will be assigned to one of the three classes. At each annual meeting of the stockholders, one class of directors will be elected for a three-year term to succeed the directors of the same class whose terms are then expiring. The terms of the directors will expire upon the election and qualification of successor directors at the annual meeting of stockholders to be held during the years 2024 for Class I directors, 2025 for Class II directors and 2026 for Class III directors.

- Our Class I directors will be ;
- Our Class II directors will be ; and
- Our Class III directors will be .

Our amended and restated certificate of incorporation and amended and restated bylaws that will become effective upon the closing of this offering will provide that the number of our directors shall be fixed from time to time by a resolution of the majority of our board of directors.

The division of our board of directors into three classes with staggered three-year terms may delay or prevent stockholder efforts to effect a change of our management or a change in control.

Director Independence

We have applied to list our common stock on the Nasdaq Global Select Market. Under the Nasdaq listing rules, independent directors must comprise a majority of a listed company's board of directors within twelve months from the date of listing. In addition, the Nasdaq listing rules require that, subject to specified exceptions, each member of a listed company's audit, compensation and nominating and governance committees be independent within twelve months from the date of listing. Audit committee members must also satisfy additional independence criteria, including those set forth in Rule 10A-3 under the Securities Exchange Act of 1934 (the "Exchange Act"), and compensation committee members must also satisfy the independence criteria set forth in Rule 10C-1 under the Exchange Act. Under Nasdaq listing rules, a director will only qualify as an "independent director" if, in the opinion of that company's board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. In order to be considered independent for purposes of Rule 10A-3 under the Exchange Act, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors, or any other board committee: (i) accept, directly or indirectly, any consulting, advisory, or other compensatory fee from the listed company or any of its subsidiaries, other than compensation for board service; or (ii) be an affiliated person of the listed company or any of its subsidiaries. In order to be considered independent for purposes of Rule 10C-1, the board of directors must consider, for each member of a compensation committee of a listed company, all factors specifically relevant to determining whether a director has a relationship to such company which is material to that director's ability to be independent from management in connection with the duties of a compensation committee member, including, but not limited to: the source of compensation of the director, including any consulting advisory or other compensatory fee paid by such company to the director, and whether the director is affiliated with the company or any of its subsidiaries or affiliates.

In 2024, our board of directors undertook a review of the composition of our board of directors and its committees and the independence of each director. Based upon information requested from and provided by each director concerning his background, employment and affiliations, including family relationships, our board of directors has determined that all members of our board of directors, except , are independent directors, including for purposes of Nasdaq and the SEC rules. In making that determination, our board of directors considered the relationships that each director has with us and all other facts and circumstances the board of directors deemed relevant in determining independence, including the potential deemed beneficial ownership of our capital stock by each director, including non-employee directors that are affiliated with certain of our major stockholders. Upon the completion of this offering, we expect that the composition and functioning of our board of directors and each of our committees will comply with all applicable requirements of Nasdaq and the rules and regulations of the SEC. There are no family relationships among any of our executive officers and directors.

We intend to adopt a policy, subject to and effective upon the effectiveness of the registration statement of which this prospectus forms a part, that outlines a process for our securityholders to send communications to the board of directors.

Board Committees

Our board of directors will establish an audit committee, a compensation committee and a nomination and corporate governance committee, each of which will operate pursuant to a charter to be adopted by our board of directors and will be effective upon the effectiveness of the registration statement of which this prospectus forms a part. We believe that the composition and functioning of all of our committees will comply with the applicable requirements of Nasdaq, the Sarbanes-Oxley Act of 2002 and SEC rules and regulations that will be applicable to us. We intend to comply with future requirements to the extent they become applicable to us.

Following the consummation of this offering, the full text of our audit committee charter, compensation committee charter and nomination and corporate governance committee charter will be posted on the investor relations portion of our website at https://www.metagenomi.co. We do not incorporate the information contained on, or accessible through, our corporate website into this prospectus, and you should not consider it a part of this prospectus.

Audit Committee

Upon the effectiveness of the registration statement of which this prospectus forms a part, our audit committee will consist of and will be chaired by . The functions of the audit committee will include:

- appointing, approving the compensation of, and assessing the independence of our independent registered public accounting firm;
- pre-approving auditing and permissible non-audit services, and the terms of such services, to be provided by our independent registered public accounting firm;
- reviewing the overall audit plan with our independent registered public accounting firm and members of management responsible for preparing our financial statements;
- reviewing and discussing with management and our independent registered public accounting firm our annual and quarterly financial statements and related disclosures as well as critical accounting policies and practices used by us;
- coordinating the oversight and reviewing the adequacy of our internal control over financial reporting;
- establishing policies and procedures for the receipt and retention of accounting-related complaints and concerns;
- recommending based upon the audit committee's review and discussions with management and our independent registered public accounting firm whether our audited financial statements shall be included in our Annual Report on Form 10-K;
- monitoring the integrity of our financial statements and our compliance with legal and regulatory requirements as they relate to our financial statements and accounting matters;
- preparing the audit committee report required by SEC rules to be included in our annual proxy statement;
- reviewing all related person transactions for potential conflict of interest situations and approving all such transactions; and
- reviewing quarterly earnings releases.

All members of our audit committee will meet the requirements for financial literacy under the applicable rules and regulations of the SEC and the Nasdaq listing rules. Our board of directors has determined that qualifies as an "audit committee financial expert" within the meaning of applicable SEC regulations. In making this determination, our board of directors considered the nature and scope of experience that has previously had with public reporting companies, including service as . Our board of directors has determined that all of the directors that will become members of our audit committee upon the effectiveness of the registration statement of which this prospectus forms a part satisfy the relevant independence requirements for service on the audit committee set forth in the rules of the SEC and the Nasdaq listing rules. Both our independent registered public accounting firm and management will periodically meet privately with our audit committee.

Compensation Committee

Upon the effectiveness of the registration statement of which this prospectus forms a part, our compensation committee will consist of , and will be chaired by . The functions of the compensation committee will include:

- annually reviewing and recommending to the board of directors the corporate goals and objectives relevant to the compensation of our Chief Executive Officer;
- evaluating the performance of our Chief Executive Officer in light of such corporate goals and objectives and based on such evaluation (i) reviewing and determining the cash compensation of our Chief Executive Officer and (ii) reviewing and approving grants and awards to our Chief Executive Officer under equity-based plans;
- reviewing and approving the compensation of our other executive officers;
- reviewing and establishing our overall management compensation, philosophy and policy;
- overseeing and administering our compensation and similar plans;
- evaluating and assessing potential and current compensation advisors in accordance with the independence standards identified in the applicable Nasdaq listing rules;
- reviewing and approving our policies and procedures for the grant of equity-based awards;
- reviewing and recommending to the board of directors the compensation of our directors;
- preparing our compensation committee report if and when required by SEC rules;
- reviewing and discussing annually with management our "Compensation Discussion and Analysis," if and when required, to be included in our annual proxy statement; and
- reviewing and approving the retention or termination of any consulting firm or outside advisor to assist in the evaluation of compensation matters.

Each member of our compensation committee will be a non-employee director, as defined in Rule 16b-3 promulgated under the Exchange Act, and an outside director, as defined pursuant to Section 162(m) of the Internal Revenue Code of 1986, as amended (the "Code").

Nominating and Corporate Governance Committee

Upon the effectiveness of the registration statement of which this prospectus forms a part, our nominating and corporate governance committee will consist of and will be chaired by . The functions of the nominating and corporate governance committee will include:

- developing and recommending to the board of directors criteria for board and committee membership;
- establishing procedures for identifying and evaluating board of director candidates, including nominees recommended by stockholders;
- reviewing the composition of the board of directors to ensure that it is composed of members containing the appropriate skills and expertise to advise us;
- identifying individuals qualified to become members of the board of directors;
- recommending to the board of directors the persons to be nominated for election as directors and to each of the board's committees;

- developing and recommending to the board of directors a code of business conduct and ethics and a set of corporate governance guidelines; and
- overseeing the evaluation of our board of directors and management.

Our board of directors may from time to time establish other committees.

Compensation Committee Interlocks and Insider Participation

None of the members of our compensation committee is, or has at any time during the prior three years been, one of our officers or employees. None of our executive officers currently serve, or have in the past fiscal year served, as a member of the board of directors or compensation committee of any entity that has one or more of its executive officers serving as a member of our board of directors or our compensation committee.

Code of Business Conduct and Ethics

Our board of directors intends to adopt, subject to and effective upon the effectiveness of the registration statement of which this prospectus forms a part, a Code of Business Conduct and Ethics in connection with this offering. The Code of Business Conduct and Ethics will apply to all of our employees, officers (including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions), agents and representatives, including directors and consultants.

We intend to disclose future amendments to certain provisions of our Code of Business Conduct and Ethics and our Code of Ethics on our website identified below. Upon the completion of this offering, the full text of our Code of Business Conduct and Ethics and our Code of Ethics will be posted on our website at https://www. Metagenomi.co. The inclusion of our website address in this prospectus does not include or incorporate by reference the information on our website into this prospectus, and you should not consider that information a part of this prospectus.

Limitations on Liability and Indemnification Agreements

As permitted by Delaware law, provisions in our amended and restated certificate of incorporation and amended and restated bylaws, both of which will become effective upon the closing of this offering, limit or eliminate the personal liability of directors for a breach of their fiduciary duty of care as a director. The duty of care generally requires that, when acting on behalf of the corporation, a director exercise an informed business judgment based on all material information reasonably available to him or her. Consequently, a director will not be personally liable to us or our stockholders for monetary damages or breach of fiduciary duty as a director, except for liability for:

- any breach of the director’s duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- any act related to unlawful stock repurchases, redemptions or other distributions or payments of dividends; or
- any transaction from which the director derived an improper personal benefit.

These limitations of liability do not limit or eliminate our rights or any stockholder’s rights to seek non-monetary relief, such as injunctive relief or rescission. These provisions will not alter a director’s liability under other laws, such as the federal securities laws or other state or federal laws. Our amended and restated certificate of incorporation that will become effective upon the closing of this offering also authorizes us to indemnify our officers, directors and other agents to the fullest extent permitted under Delaware law.

As permitted by Delaware law, our amended and restated bylaws to be effective upon the consummation of this offering will provide that:

- we will indemnify our directors, officers, employees and other agents to the fullest extent permitted by law;
- we must advance expenses to our directors and officers, and may advance expenses to our employees and other agents, in connection with a legal proceeding to the fullest extent permitted by law; and
- the rights provided in our amended and restated bylaws are not exclusive.

If Delaware law is amended to authorize corporate action further eliminating or limiting the personal liability of a director or officer, then the liability of our directors or officers will be so eliminated or limited to the fullest extent permitted by Delaware law, as so amended. Our amended and restated bylaws will also permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in connection with their services to us, regardless of whether our amended and restated bylaws permit such indemnification. We have obtained such insurance.

In addition to the indemnification that will be provided for in our amended and restated certificate of incorporation and amended and restated bylaws, we plan to enter into separate indemnification agreements with each of our directors and executive officers, which may be broader than the specific indemnification provisions contained in the Delaware General Corporation Law. These indemnification agreements may require us, among other things, to indemnify our directors and executive officers for some expenses, including attorneys' fees, expenses, judgments, fines and settlement amounts incurred by a director or executive officer in any action or proceeding arising out of his service as one of our directors or executive officers or any other company or enterprise to which the person provides services at our request. We believe that these provisions and agreements are necessary to attract and retain qualified individuals to serve as directors and executive officers.

This description of the indemnification provisions of our amended and restated certificate of incorporation, our amended and restated bylaws and our indemnification agreements is qualified in its entirety by reference to these documents, each of which is attached as an exhibit to the registration statement of which this prospectus forms a part.

Insofar as indemnification for liabilities arising under the Securities Act, may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act, and is, therefore, unenforceable.

There is no pending litigation or proceeding naming any of our directors or officers as to which indemnification is being sought, nor are we aware of any pending or threatened litigation that may result in claims for indemnification by any director or officer.

EXECUTIVE COMPENSATION

The following discussion contains forward looking statements that are based on our current plans, considerations, expectations and determinations regarding our future compensation programs. The actual amount and form of compensation and the compensation policies and practices that we adopt in the future may differ materially from currently planned programs as summarized in this discussion.

As an emerging growth company, we have opted to comply with the executive compensation disclosure rules applicable to "smaller reporting companies," as such term is defined in the rules promulgated under the Securities Act. The compensation provided to our named executive officers for the fiscal year ended December 31, 2023 is detailed in the 2023 Summary Compensation Table and accompanying footnotes and narrative that follow. Our named executive officers for the fiscal year ended December 31, 2023 are:

- Brian C. Thomas, Ph.D., our Chief Executive Officer;
- Jian Irish, Ph.D., MBA, our President and Chief Operating Officer; and
- Sarah Noonberg, M.D., Ph.D., our Chief Medical Officer.

To date, the compensation of our named executive officers has consisted of a combination of base salary, cash bonuses and equity awards in the form of profits interests, as described below. Our named executive officers, like all of our full-time employees, are eligible to participate in our health and welfare benefit plans. As we transition from a private company to a publicly traded company, we intend to evaluate our compensation values and philosophy and compensation plans and arrangements as circumstances require.

2023 Summary Compensation Table

The following table shows the total compensation earned by, or paid to, our named executive officers for services rendered to us in all capacities during the years listed below.

Name and Principal Position	Year	Salary ($)	Bonus(1) ($)	Stock Awards(2) ($)	Non-Equity Incentive Plan Compensation(3) ($)	All Other Compensation(4) ($)	Total ($)
Brian C. Thomas, Ph.D.							
Chief Executive Officer	2023	516,667	—	6,966,519	—	34,069	7,517,255
	2022	500,000	100,000	1,223,129	318,250	15,250	2,156,629
Jian Irish, Ph.D., MBA							
President and Chief Operating Officer	2023	465,000	—	1,783,211	—	18,368	2,266,579
	2022	450,000	52,000	313,084	260,354	8,990	1,084,428
Sarah Noonberg, M.D., Ph.D.							
Chief Medical Officer	2023	388,231	—	1,447,782	—	18,300	1,854,313

(1) The amounts reported in this column reflect one time special bonuses paid to Dr. Thomas and Dr. Irish for performance during the fiscal year ended December 31, 2022.

(2) The amounts reported in this column represent the aggregate grant date fair value of profits interests granted to the named executive officers during the applicable fiscal year, as calculated in accordance with Financial Accounting Standards Board ("FASB"), Accounting Standards Codification ("ASC"), Topic 718. Such grant date value does not take into account any estimated forfeitures related to service-based vesting conditions. On July 31, 2023, as a result of the amendment to the LLC agreement to include a "catch-up" feature, the Company remeasured the fair value of its profits interests as required under ASC 718 resulting in increases to the originally calculated fair values, in the aggregate amount of $4,564,081. The assumptions used in the grant date fair value of the awards in this column are described in Note 11 – Profits interest plan to our unaudited consolidated financial statements as of September 30, 2023 and for the nine months ended September 30, 2022 and 2023. These assumptions are included elsewhere in this prospectus. These awards are described in more detail under "Narrative Disclosure to Summary Compensation Table – Equity-Based Compensation" below.

(3) The amounts reported represent annual bonuses under our annual cash bonus program based on achievement of company performance and individual performance during the applicable fiscal year. Such amounts for fiscal year 2023 have not yet been determined, but are expected to be determined and paid in the first quarter of 2024 and will be reported at such time as required by SEC rules.

(4) The amounts reported for fiscal year 2023 reflect an employer matching contribution on the employee's behalf under our 401(k) plan. The amount for Dr. Thomas also includes $18,102 related to reimbursement of certain legal fees incurred by Dr. Thomas in connection with the negotiation of his employment contract with the Company.

Narrative Disclosure to Summary Compensation Table

2023 Base Salaries

Our named executive officers each receive a base salary to compensate them for services rendered to our Company. The base salary payable to each named executive officer is intended to provide a fixed component of compensation reflecting the executive's skill set, experience, role and responsibilities. Base salaries may be adjusted from time to time to realign salaries with market levels after taking into account individual responsibilities, performance and experience. The base salary for Dr. Thomas was adjusted effective as of March 1, 2023 from $500,000 to $520,000. The base salary for Dr. Irish was adjusted effective March 1, 2023 from $450,000 to $468,000. Dr. Noonberg joined the Company January 30, 2023 and her base salary was not adjusted during the calendar year 2023. As of December 31, 2023, the base salaries for Dr. Thomas, Dr. Irish, and Dr. Noonberg were $520,000, $468,000, and $420,000, respectively.

2023 Cash Bonuses

For the fiscal year ended December 31, 2023, each of the named executive officers is eligible to earn an annual cash bonus determined by our board of directors in its sole discretion, based on achievement of certain individual and corporate performance goals, relating primarily to research and development goals, clinical milestones, business development and organizational goals. The target annual bonus for each of our named executive officers for the fiscal year ended December 31, 2023 was equal to the percentage of the executive's respective annual base salary specified below:

Name	Target Bonus Percentage
Brian C. Thomas	50%
Jian Irish	45%
Sarah Noonberg	40%

The annual cash bonuses earned by each named executive office for the fiscal year ended December 31, 2023 have not yet been determined, but are expected to be determined and paid in the first quarter of 2024 and will be reported at such time as required by SEC rules.

Equity-Based Compensation

Although we do not yet have a formal policy with respect to the grant of equity incentive awards to our executive officers, we believe that equity grants provide our executives with a strong link to our long-term performance, create an ownership culture and help to align the interests of our executives and our unitholders. We have granted our named executive officers profits interests under our 2019 Equity Incentive Plan (the "2019 Plan"). These profits interests are subject to time-based vesting conditions and are intended to be treated as "profits interests" for U.S. federal income tax purposes.

In connection with the Reorganization, profits interests will be exchanged for shares of common stock and restricted common stock of Metagenomi, Inc.

For additional information regarding outstanding equity awards held by our named executive officers as of December 31, 2023, see the "*Outstanding Equity Awards at 2023 Fiscal Year End*" table below.

Perquisites/Personal Benefits

Perquisites or other personal benefits are not a significant component of our executive compensation program. Accordingly, we do not provide significant perquisites or other personal benefits to our executive officers, including our named executive officers.

401(k) Plan

We maintain a retirement savings plan (“401(k) plan”) that is intended to qualify for favorable tax treatment under Section 401(a) of the Code and contains a cash or deferred feature that is intended to meet the requirements of Section 401(k) of the Code. U.S. employees are generally eligible to participate in the 401(k) plan, subject to certain criteria. Participants may make pre-tax and certain after-tax (Roth) salary deferral contributions to the plan from their eligible earnings up to the statutorily prescribed annual limit under the Code. Participants who are 50 years of age or older may contribute additional amounts based on the statutory limits for catch-up contributions. Participant contributions are held in trust as required by law. We provide employer matching contributions of 100% on the first 5% of participant’s compensation contributed to our 401(k) plan.

Outstanding Equity Awards at 2023 Fiscal Year End

The following table lists all outstanding equity awards held by our named executive officers as of December 31, 2023.

			Stock Awards(1)			
Name	Grant Date	Vesting Commencement Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested ($)(2)	Equity Incentive Plan awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested (#)	Equity Incentive Plan awards: Market Value of Unearned Shares, Units or Other Rights That Have Not Vested ($)
Brian C. Thomas, Ph.D.(3)	11/2/21	11/1/21	60,604			
Chief Executive Officer	5/26/22	1/21/22	338,094			
	6/26/23	1/20/23	590,035			
Jian Irish, Ph.D., MBA(4)	1/26/21	1/5/21	130,164			
President and Chief	11/2/21	11/1/21	212,110			
Operating Officer	5/26/22	1/21/22	86,542			
	6/26/23	1/20/23	151,030			
Sarah Noonberg, M.D.,Ph.D.	3/24/23	1/30/23	200,000			
Chief Medical Officer						

(1) All awards in this table consist of profits interests granted under the 2019 Plan that are intended to qualify as "profits interests" for U.S. tax purposes. They do not require the payment of an exercise price and will only obtain value as value of the underlying security rises above its grant date value, which is referred to as the "Threshold Amount." The profits interests vest as follows: 25% vest on the one year anniversary of the vesting commencement date; and then the remaining 75% of the total profits interests vest in substantially equal amounts on each monthly anniversary of the vesting commencement date thereafter, until fully vested on the fourth anniversary of the vesting commencement date, based upon the participant's continued service on each applicable vesting date.

(2) Represents the fair market value of profits interests that were unvested as of December 31, 2023. The fair market value assumes an initial public offering prior of $ per share, which is the estimated midpoint of the price range set forth on the cover page of this prospectus.

(3) Awards held by Dr. Thomas are subject to certain acceleration provisions, as summarized below under "Employment Arrangements in Place Prior to the Offering for Named Executive Officers."

(4) Awards held by Dr. Irish are subject to certain acceleration provisions, as summarized below under "Employment Arrangements in Place Prior to the Offering for Named Executive Officers."

Executive Compensation Arrangements

We have entered into offer letters and/or employment agreements with each of our named executive officers. Each offer letter or employment agreement provides for "at-will" employment and the compensation and benefits described below.

Employment Arrangements in Place Prior to The Offering for Named Executive Officers

Brian C. Thomas

On March 20, 2023, the Company executed an executive employment agreement with Dr. Thomas (the "Thomas Employment Agreement"), for the position of Chief Executive Officer. The Thomas Employment Agreement provides for Dr. Thomas's at-will employment. Dr. Thomas's current base salary is $520,000 and he is eligible to receive an annual bonus with an annual target amount of 50% of his annual base salary. Dr. Thomas is eligible to participate in the employee benefit plans available to our employees, subject to the terms of such plans.

Upon termination of Dr. Thomas's employment by us without Cause or his resignation for Good Reason outside of the Change in Control Period, as such terms are defined in the Thomas Employment Agreement, subject to (i) Dr. Thomas resigning from all positions, (ii) signing a general release of claims in favor of the Company and (iii) not breaching any of the post-employment covenants and contractual obligations to the Company, Dr. Thomas shall be entitled to (A) a lump sum payment equal to nine (9) months of his then current base salary and pro-rated target bonus, based on the number of days he was employed in such year, divided by 365, payable within sixty (60) days following his termination, and (B) if Dr. Thomas was participating in the Company's group health plan immediately prior to the termination date, a monthly cash payment for nine (9) months in an amount equal to Dr. Thomas's and his eligible dependents monthly COBRA premium. In addition, and subject to the same conditions, upon a termination by us without Cause or his resignation for Good Reason during the Change in Control Period, he shall be entitled to (A) a lump sum payment equal to twelve (12) months of his then current base salary and pro-rated target bonus, based on the number of days he was employed in such year, divided by 365, payable within sixty (60) days following his termination, (B) if Dr. Thomas was participating in the Company's group health plan immediately prior to the termination date, a monthly cash payment for twelve (12) months in an amount equal to Dr. Thomas's and his eligible dependents monthly COBRA premium, and (C) full acceleration of his then outstanding and unvested equity awards.

Jian Irish

On January 19, 2021, the Company executed an offer letter with Dr. Irish (the "Irish Offer Letter"), for the position of Chief Operations Officer. The Irish Offer Letter provides for Dr. Irish's at-will employment. Dr. Irish was promoted to President and Chief Operating Officer effective November 1, 2021. Dr. Irish's current base salary is $468,000 and she is eligible to receive an annual bonus with an annual target amount of 45% of her annual salary. Dr. Irish is eligible to participate in the employee benefit plans available to our employees, subject to the terms of such plans. The Irish Offer Letter provides for Dr. Irish's eligibility to receive a grant of profits interests under the 2019 Plan, which will be subject to full acceleration upon the occurrence of a Change of Control (as defined in the Irish Offer Letter).

Upon a termination of Dr. Irish's agreement by us without Cause, or her resignation for Good Reason, as such terms are defined in the Irish Offer Letter, she will be eligible to receive six (6) months of base salary, pro-rated annual bonus, and six (6) months vesting acceleration.

Dr. Irish entered into an Employee Invention Assignment and Confidentiality Agreement that contains various restrictive covenants, including non-solicitation provisions that apply during her employment and for a period of twelve months thereafter.

Sarah Noonberg

On January 30, 2023, the Company executed an offer letter with Dr. Noonberg (the "Noonberg Offer Letter"), for the position of Chief Medical Officer. The Noonberg Offer Letter provides for Dr. Noonberg's at-will employment. Dr. Noonberg's current base salary is $420,000 and she is eligible to receive an annual bonus with an annual target amount of 40% of her base salary, the target amount for 2023 is prorated given Dr. Noonberg's employment start date in January 2023. Dr. Noonberg is eligible to participate in the employee benefit plans available to our employees, subject to the terms of such plans. The Noonberg Offer Letter provides for Dr. Noonberg's eligibility to receive a grant of profits interests under the 2019 Plan.

Dr. Noonberg entered into an Employee Invention Assignment and Confidentiality Agreement that contains various restrictive covenants, including non-solicitation provisions that apply during his employment and for a period of twelve months thereafter.

Employee Benefit and Equity Compensation Plans

2019 Equity Incentive Plan

The 2019 Plan was initially approved by the board of managers of the Company in March 2019. The 2019 Plan provided for the grant of profits interests, restricted common units, options to purchase common units and restricted equity units to selected employees, officers, directors and consultants of the Company. The total number of common units available for grant and issuance under the 2019 Plan is 14,604,165 common units. Common units that are (i) cancelled, forfeited, settled in cash, used to pay withholding obligations or that expire by their terms at any time and (ii) that are reacquired by the Company pursuant to a right of first refusal or repurchase by the Company, will again become available for issuance under the 2019 Plan. Our board of managers administers the 2019 Plan and has the authority to take any action necessary or advisable for the administration of the 2019 Plan. Our board has the right and discretion to grant awards under the 2019 Plan to participants.

Common units designated as profits interests by the board of managers are intended to meet the definition of a "profits interests" set forth in IRS Revenue Procedures 93-27 and 2001-43. Accordingly, such profits interests do not give the holder a share of the proceeds if the Company's assets were sold at fair market value and the proceeds of such disposition were distributed in a complete liquidation of the Company immediately after the date of grant, but give the holder a right to share in the appreciation in the value of a common unit from the date of receipt to the future, as determined by the applicable provisions of the Company's operating agreement in effect immediately prior to the Reorganization.

Upon a liquidation event, as defined in the 2019 Plan, the board of managers may in its sole discretion, cancel all outstanding and unexercised awards, including profits interests and other unvested awards, in each case, without consideration, as of the date of such liquidation event.

The 2019 Plan will terminate automatically ten (10) years after the later of (i) the date when the board adopted the 2019 Plan and (ii) the date when the board approved the most recent increase in the number of common units reserved under the 2019 Plan, which was also subsequently approved by the members of the company. The board of managers may amend, suspend or terminate the 2019 Plan at any time and for any reason; provided, that any amendment that would materially adversely impact an award shall only be effective with respect to such award if the holder thereof so consents prior to the date of the amendment.

2024 Stock Option and Incentive Plan

Our 2024 Plan was adopted by our board of directors on , 2024, approved by our stockholders on , 2024, and will become effective upon the date immediately preceding the date on which the registration statement of which this prospectus is part is declared effective by the SEC. The 2024 Plan will replace the 2019 Plan. The 2024 Plan provides flexibility to our compensation committee to use various equity-based incentive awards as compensation tools to motivate our workforce.

We have initially reserved shares of our common stock for the issuance of awards under the 2024 Plan, or the Initial Limit. The 2024 Plan provides that the number of shares reserved and available for issuance under the 2024 Plan will automatically increase on January 1, 2025 and each January 1 thereafter, by 5% of the outstanding number of shares of our common stock on the immediately preceding December 31, or such lesser number of shares as determined by our compensation committee, or the Annual Increase. The number of shares reserved under the 2024 Plan is subject to adjustment in the event of a stock split, stock dividend, or other change in our capitalization.

The shares we issue under the 2024 Plan will be authorized but unissued shares or shares that we reacquire. The shares of common stock underlying any awards under the 2024 Plan that are forfeited, cancelled, held back upon exercise or settlement of an award to satisfy the exercise price or tax withholding, reacquired by us prior to vesting, satisfied without the issuance of stock, or are otherwise terminated (other than by exercise) will be added back to the shares of common stock available for issuance under the 2024 Plan.

The maximum aggregate number of shares that may be issued in the form of incentive stock options shall not exceed the Initial Limit, cumulatively increased on January 1, 2025 and on each January 1 thereafter by the lesser of the Annual Increase for such year or shares of common stock.

The grant date fair value of all awards made under our 2024 Plan and all other cash compensation paid by us to any non-employee director in any calendar year for services as a non-employee director shall not exceed $800,000; provided, however, that such amount shall be $1,000,000 for the calendar year in which the applicable non-employee director is initially elected or appointed to the board of directors.

The 2024 Plan will be administered by our compensation committee. Our compensation committee has the full power to select, from among the individuals eligible for awards, the individuals to whom awards will be granted and the number of shares subject to such awards, to make any combination of awards to participants, to accelerate at any time the exercisability or vesting of any award, to impose any limitations and/or vesting conditions on each award, and to determine the specific terms and conditions of each award, subject to the provisions of the 2024 Plan. Persons eligible to participate in the 2024 Plan will be those full or part-time officers, employees, non-employee directors, and consultants as selected from time to time by our compensation committee in its discretion.

The 2024 Plan permits the granting of both options to purchase common stock intended to qualify as incentive stock options under Section 422 of the Code and options that do not so qualify. The option exercise price of each option will be determined by our compensation committee but may not be less than 100% of the fair market value of our common stock on the date of grant unless the option (i) is granted pursuant to a transaction described in, and in a manner consistent with, Section 424(a) of the Code, (ii) is granted to an individual who is not subject to United States income tax, or (iii) complies with Section 409A of the Code. The term of each option will be fixed by our compensation committee and may not exceed ten years from the date of grant. Our compensation committee will determine at what time or times each option may be exercised.

Our compensation committee may award stock appreciation rights subject to such conditions and restrictions as it may determine. Stock appreciation rights entitle the recipient to shares of common stock, or cash, equal to the value of the appreciation in our stock price over the exercise price. The exercise price of each stock appreciation right may not be less than 100% of the fair market value of our common stock on the date of grant unless the stock appreciation right (i) is granted pursuant to a transaction described in, and in a manner consistent with, Section 424(a) of the Code, (ii) is granted to an individual who is not subject to United States income tax, or (iii) complies with Section 409A of the Code. The term of each stock appreciation right will be fixed by our compensation committee and may not exceed ten years from the date of grant. Our compensation committee will determine at what time or times each stock appreciation right may be exercised.

Our compensation committee may award restricted shares of common stock and restricted stock units to participants subject to such conditions and restrictions as it may determine. These conditions and restrictions may include the achievement of certain performance goals and/or continued employment with us through a specified vesting period. Our compensation committee may also grant shares of common stock that are free from any restrictions under the 2024 Plan. Unrestricted stock may be granted to participants in recognition of past services or for other valid consideration and may be issued in lieu of cash compensation due to such participant.

Our compensation committee may grant dividend equivalent rights to participants that entitle the recipient to receive credits for dividends that would be paid if the recipient had held a specified number of shares of our common stock.

Our compensation committee may grant cash bonuses under the 2024 Plan to participants, subject to the achievement of certain performance goals.

The 2024 Plan provides that upon the effectiveness of a “sale event,” as defined in the 2024 Plan, an acquirer or successor entity may assume, continue, or substitute outstanding awards under the 2024 Plan. To the extent that awards granted under the 2024 Plan are not assumed, continued, or substituted by the successor entity, upon the effective time of the sale event, such awards shall terminate. In such case, except as may be otherwise provided in the relevant award agreement, all awards with time-based vesting, conditions, or restrictions shall become fully vested and exercisable or nonforfeitable as of the effective time of the sale event, and all awards with conditions and restrictions relating to the attainment of performance goals may become vested and exercisable or nonforfeitable in connection with a sale event in the administrator’s discretion or to the extent specified in the relevant award agreement. In the event of such termination, individuals holding options and stock appreciation rights (i) may be permitted to exercise such options and stock appreciation rights (to the extent exercisable) within a specified period of time prior to the sale event or (ii) we may make or provide for a payment, in cash or in kind, to participants holding vested and exercisable options and stock appreciation rights equal to the difference between the per share consideration payable to stockholders in the sale event and the exercise price of the options or stock appreciation rights. In addition, we may make or provide for a payment, in cash or in kind, to participants holding other vested awards.

Our board of directors may amend or discontinue the 2024 Plan and our compensation committee may amend or cancel outstanding awards for purposes of satisfying changes in law or any other lawful purpose but no such action may materially adversely affect rights under an award without the holder’s consent. Certain amendments to the 2024 Plan require the approval of our stockholders. The administrator of the 2024 Plan is specifically authorized to exercise its discretion to reduce the exercise price of outstanding stock options and stock appreciation rights or effect the repricing of such awards through cancellation and re-grants without stockholder consent. No awards may be granted under the 2024 Plan after the date that is ten years from the effective date of the 2024 Plan. No awards have been made under the 2024 Plan prior to the date of this prospectus.

2024 Employee Stock Purchase Plan

The 2024 Employee Stock Purchase Plan, or 2024 ESPP, was adopted by our board of directors on , 2024, approved by our stockholders on , 2024, and will become effective on the date immediately preceding the date on which the registration statement of which this prospectus is part is declared effective by the SEC. The 2024 ESPP includes two components: a Code Section 423 Component, or the 423 Component, and a non-Code Section 423 Component, or the Non-423 Component. The 423 Component is intended to qualify as an "employee stock purchase plan" under Section 423 of the Code. Under the Non-423 Component, which does not qualify as an "employee stock purchase plan" within the meaning of Section 423 of the Code, options will be granted pursuant to rules adopted by the administrator of the ESPP designed to achieve tax or securities laws, or other objectives for eligible employees. The 2024 ESPP initially reserves and authorizes the issuance of up to a total of shares of common stock to participating employees. The 2024 ESPP provides that the number of shares reserved and available for issuance will automatically increase on January 1, 2025 and each January thereafter through January 1, 2034, by the least of (i) shares of common stock, (ii) 1% of the outstanding number of shares of our common stock on the immediately preceding December 31, or (iii) such number of shares of common stock as determined by the administrator of the 2023 ESPP. The number of shares reserved under the 2024 ESPP is subject to adjustment in the event of a stock split, stock dividend, or other change in our capitalization.

All individuals classified as employees on the payroll records of the Company or a "designated company." as defined in the 2024 ESPP, as of the first day of the applicable offering period, or the Offering Date, are eligible to participate in the 2024 ESPP; provided that the administrator of the ESPP may determine, in advance of any offering period, that employees are eligible only if, as of the Offering Date, they (a) are customarily employed by us or a Designated Company for more than 20 hours a week, (b) are customarily employed by us or a Designated Company for more than five months per calendar year, and/or (c) have completed at least six months of employment (or other such period as determined by the administrator of the 2024 ESPP, provided such service requirement does not exceed two years of employment). No person who owns or holds, or as a result of participation in the 2024 ESPP would own or hold, common stock or options to purchase common stock, that together equal 5% or more of total outstanding common stock is entitled to participate in the 2024 ESPP. No employee may exercise an option granted under the 2024 ESPP that permits the employee to purchase common stock having a value of more than $25,000 (determined using the fair market value of our common stock at the time such option is granted) in any calendar year.

We may make one or more offerings each year to our employees to purchase shares under the 2024 ESPP. The first offering period under the ESPP will begin and end on the dates determined by the administrator of the 2024 ESPP. Shares are purchased on the last business day of each offering period. Each eligible employee will be able to elect to participate in any offering by submitting an enrollment form by such deadline as is established by the administrator of the 2024 ESPP.

Each employee who is a participant in the 2024 ESPP will be able to purchase shares by authorizing payroll deductions of up to 15% of such employee's eligible compensation during an offering period. Unless the participating employee has previously withdrawn from the offering, such employee's accumulated payroll deductions will be used to purchase shares of common stock on the last business day of the offering period at a price equal to 85% of the fair market value of the shares on the first business day or the last business day of the offering period, whichever is lower, provided that no more than a number of shares of common stock determined by dividing $25,000 by the fair market value of the common stock on the first day of the offering may be purchased by any one employee during any offering period.

In the case of and subject to the consummation of a "sale event," as defined in the 2024 ESPP, the administrator of the 2024 ESPP, in its discretion, and on such terms and conditions as it deems appropriate, is

authorized to take any one or more of the following actions under the 2024 ESPP or with respect to any right under the 2024 ESPP or to facilitate such transactions or events: (a) provide for either (i) termination of any outstanding option in exchange for an amount of cash, if any, equal to the amount that would have been obtained upon the exercise of such option had such option been currently exercisable or (ii) the replacement of such outstanding option with other options or property selected by the administrator of the 2024 ESPP in its sole discretion; (b) provide that the outstanding options under the 2024 ESPP shall be assumed by the successor or survivor corporation, or a parent or subsidiary thereof, or shall be substituted for similar options covering the stock of the successor or survivor corporation, or a parent or subsidiary thereof, with appropriate adjustments as to the number and kind of shares and prices; (c) make adjustments in the number and type of shares of common stock (or other securities or property) subject to outstanding options under the 2024 ESPP and/or in terms and conditions of outstanding options and options that may be granted in the future; (d) provide that the offering with respect to which an option relates will be shortened by setting a new exercise date on which such offering period will end; and (e) provide that all outstanding options shall terminate without being exercised and all amounts in the accounts of participants shall be promptly refunded.

The accumulated payroll deductions of any employee who is not a participant on the last day of an offering period will be refunded. An employee's rights under the 2024 ESPP will terminate upon voluntary withdrawal from the 2024 ESPP or when the employee ceases employment with us for any reason.

The 2024 ESPP may be terminated or amended by our board of directors at any time. An amendment that increases the number of shares of common stock authorized under the 2024 ESPP and certain other amendments will require the approval of our stockholders.

Senior Executive Cash Incentive Bonus Plan

On , 2024, our board of directors adopted the Senior Executive Cash Incentive Bonus Plan, or the Bonus Plan. The Bonus Plan provides for cash bonus payments based upon Company and individual performance targets established by our compensation committee. The payment targets will be related to financial and operational measures or objectives with respect to our company, or the Corporate Performance Goals, as well as individual performance objectives.

Our compensation committee may select Corporate Performance Goals from among the following: research, pre-clinical, non-clinical, developmental, publication, clinical or regulatory milestones; scientific or technological advances; R&D capabilities; cash flow (including, but not limited to, operating cash flow and free cash flow); revenue; corporate revenue; earnings before interest, taxes, depreciation and amortization; net income (loss) (either before or after interest, taxes, depreciation and/or amortization); changes in the market price of the Company's common stock; economic value-added; acquisitions or strategic transactions; operating income (loss); return on capital, assets, equity, or investment; stockholder returns; return on sales; gross or net profit levels; productivity; expense efficiency; margins; operating efficiency; customer satisfaction; working capital; earnings (loss) per share of the Company's common stock; bookings, new bookings or renewals; sales or market shares; number of customers, number of new customers or customer references; operating income and/or net annual recurring revenue; or any other performance goal selected by the Compensation Committee, any of which may be (A) measured in absolute terms or compared to any incremental increase, (B) measured in terms of growth, (C) compared to another company or companies or to results of a peer group, (D) measured against the market as a whole and/or as compared to applicable market indices and/or (E) measured on a pre-tax or post-tax basis (if applicable). Further, any Corporate Performance Goals may be used to measure the performance of the Company as a whole or a business unit or other segment of the Company, or one or more product lines or specific markets. The Corporate Performance Goals may differ from Covered Executive to Covered Executive and from performance period to performance period.

Each executive officer who is selected to participate in the Bonus Plan will have a target bonus opportunity set for each performance period. The bonus formulas will be adopted in each performance period by the compensation committee and communicated to each executive. The Corporate Performance Goals will be measured at the end of each performance period after our financial reports have been published or such other appropriate time as the compensation committee determines. If the corporate performance goals and individual performance objectives are met, payments will be made as soon as practicable following the end of each performance period, but not later than 74 days after the end of the fiscal year in which such performance period ends. Subject to any rights contained in any agreement between the executive officer and us, an executive officer shall be required to be employed by us on the bonus payment date to be eligible to receive a bonus payment under the Bonus Plan. The Bonus Plan also permits the compensation committee to approve additional bonuses to executive officers in its sole discretion.

DIRECTOR COMPENSATION

2023 Director Compensation Table

The following table presents the total compensation paid by the Company to non-employee members of our board of managers during the fiscal year ended December 31, 2023. Other than as set forth in the table and described more fully below, we did not pay any compensation, make any equity awards or non-equity awards to, or pay any other compensation to any of the members of our board of managers in 2023 for their services as members of the board of managers. Dr. Thomas, our Chief Executive Officer, does not receive any compensation from the Company for his service on our board of managers. See the section titled "Executive Compensation" for more information on the compensation paid to or earned by Dr. Thomas as an employee for year ended December 31, 2023.

Name	Year	Fees Earned or Paid in Cash ($)	All Other Compensation(3) ($)	Total ($)
Sebastián Bernales	2023	—	—	—
Willard H. Dere(1)(2)	2023	30,000	19,201	49,201
Juergen Eckhardt	2023	—	—	—
Santosh Palani	2023	—	—	—
Risa Stack(1)	2023	—	—	—

(1) Dr. Dere and Dr. Stack each held 21,080 and 10,540 unvested profits interests granted under the 2019 Plan as of December 31, 2023. None of our other non-employee directors held any equity awards as of December 31, 2023.
(2) We entered into an Independent Manager Offer Letter with Dr. Dere, pursuant to which he is eligible to receive cash compensation of $30,000 for each calendar year for his services to our board of managers.
(3) The amounts reported in this column represent amounts paid to Dr. Dere in 2023 under his consulting agreement with the Company, which terminated in July 2023.

Non-Employee Director Compensation Policy

In connection with this offering, we intend to adopt a new non-employee director compensation policy that will become effective as of the completion of this offering and will be designed to enable us to attract and retain, on a long-term basis, highly qualified non-employee directors.

Under the policy, our non-employee directors will be eligible to receive cash retainers (which will be payable quarterly in arrears and prorated for partial years of service) and equity awards as set forth below:

Annual Retainer for Board Membership	
for general availability and participation in meetings and conference calls of our Board of Directors	$
Additional Annual Retainer for Committee Membership	
Audit Committee Chairperson:	$
Audit Committee member (other than Chairperson):	$
Compensation Committee Chairperson:	$
Compensation Committee member (other than Chairperson):	$
Nominating and Corporate Governance Committee Chairperson:	$
Nominating and Corporate Governance Committee member (other than Chairperson):	$
Science & Technology Committee Chairperson:	$
Science & Technology Committee member (other than Chairperson):	$

Additional Retainer for Non-Executive Chairperson of the Board:

In addition, our policy will provide that, upon initial election or appointment to our board of directors, each new non-employee director will be granted a one-time grant of a non-statutory stock option to purchase shares of our common stock equivalent to $ in value on the date of such director's election or appointment to the board of directors (the "Director Initial Grant"). The Director Initial Grant will vest , subject to the non-employee director's continued services to the us. On the date of each annual meeting of stockholders of our company following the completion of this offering, each non-employee director who will continue as a non-employee director following such meeting will be granted an annual award of a non-statutory stock option to purchase shares of common stock equivalent to $ in value (the "Director Annual Grant"). The Director Annual Grant will vest in full on the earlier of the one-year anniversary of the grant date or on the date of our next annual meeting of stockholders, subject to the non-employee director's continued services to us. Such awards are subject to full acceleration vesting upon the sale of our company.

The aggregate amount of compensation, including both equity compensation and cash compensation, paid to any non-employee director for service as a non-employee director in a calendar year period will not exceed $ in the first calendar year such individual becomes a non-employee director and $ in any other calendar year.

We will reimburse all reasonable out-of-pocket expenses incurred by directors for their attendance at meetings of our board of directors or any committee thereof.

Employee directors will receive no additional compensation for their service as a director.

CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS

The following is a description of transactions or series of transactions since January 1, 2020, to which we were or will be a party, in which:

- the amount involved in the transaction exceeds, or will exceed, $120,000; and
- in which any of our executive officers, directors or holder of five percent or more of any class of our capital stock, including their immediate family members or affiliated entities, had or will have a direct or indirect material interest.

Compensation arrangements for our named executive officers and our directors are described elsewhere in this prospectus under "Executive Compensation" and "Director Compensation."

Series A-4 and Series A-5 Preferred Unit Financings

From 2020 to 2021, we sold an aggregate of 9,861,297 Series A-4 and Series A-5 preferred units in multiple closings, consisting of (i) 8,280,360 Series A-4 preferred units sold at a purchase price of $4.84875 per unit for an aggregate amount of $40.1 million and (ii) 1,580,937 Series A-5 preferred units sold at a purchase price of $6.32536 per unit for an aggregate amount of $10.0 million, for total aggregate proceeds of $50.1 million. The following table summarizes purchases of our Series A-4 and Series A-5 preferred units as described above by related persons:

Stockholder	Numbers of Series A-4/Series A-5 preferred units	Total purchase price
Bayer HealthCare LLC(1)	2,062,387	$9,999,998.97
Humboldt Fund I, LP(2)	2,062,387	$9,999,998.97
Entities affiliated with RA Capital(3)	1,580,937	$9,999,995.67
Sake Holdings LLC(4)	929,067	$4,504,813.62
Entities affiliated with Sozo Ventures(5)	710,907	$3,447,010.33

(1) Juergen Eckhardt, a manager on our board of managers, is an affiliate of Bayer Consumer Care AG, which is an affiliate of Bayer HealthCare LLC. Bayer HealthCare LLC holds more than 5 percent of our voting securities.
(2) Sebastián Bernales, a manager on our board of managers, is an affiliate of Humboldt Fund. Humboldt Fund I, LP is an affiliated fund of Humboldt Fund. Humboldt Fund I, LP holds more than 5 percent of our voting securities.
(3) Represents 1,343,796 Series A-5 preferred units purchased by RA Capital Healthcare Fund, L.P. and 237,141 Series A-5 preferred units purchased by RA Capital Nexus Fund II, L.P. Entities affiliated with RA Capital collectively hold more than 5 percent of our voting securities.
(4) Sebastián Bernales, a manager on our board of managers, is an affiliate of Sake Holdings LLC. Sake Holdings LLC holds more than 5 percent of our voting securities.
(5) Represents 319,908 Series A-4 preferred units purchased by Sozo Ventures – Truebridge Fund II, L.P. and 390,999 Series A-4 preferred units purchased by Sozo Ventures II-S, L.P. Entities affiliated with Sozo Ventures collectively hold more than 5 percent of our voting securities.

Series B Preferred Unit Financing

In 2022 and 2023, we sold an aggregate of 22,162,743 Series B and Series B-1 preferred units in multiple closings, consisting of (i) 15,054,263 Series B preferred units, which includes (a) 12,446,876 Series B preferred units sold at a purchase price of $11.64951 per unit and (b) 2,607,387 Series B preferred units which converted pursuant to a promissory note with a principal amount of $30.0 million and accrued interest of $0.4 million

between the Company and ModernaTx, Inc., for an aggregate amount of $175.4 million and (ii) 7,108,480 Series B-1 preferred units sold at a purchase price of $14.06770 per unit for an aggregate amount of $100.0 million, for total aggregate proceeds of $275.4 million. The following table summarizes purchases of our Series B and Series B-1 preferred units by related persons:

Stockholder	Numbers of Series B/Series B-1 preferred units	Total purchase price
ModernaTX, Inc.(1)	2,982,800	$35,655,978.39
Bayer HealthCare LLC(2)	1,920,757	$24,529,689.59
Humboldt Fund I, LP(3)	1,250,532	$14,825,929.39
Entities affiliated with RA Capital(4)	1,000,575	$12,000,002.54
Entities affiliated with Sozo Ventures(5)	816,063	$10,442,237.49

(1) Represents 2,607,387 Series B preferred units and 375,413 Series B-1 preferred units. ModernaTX, Inc. holds more than 5 percent of our voting securities.
(2) Represents 1,030,086 Series B preferred units and 890,671 Series B-1 preferred units. Juergen Eckhardt, a manager on our board of managers, is an affiliate of Bayer Consumer Care AG, which is an affiliate of Bayer HealthCare LLC. Bayer HealthCare LLC holds more than 5 percent of our voting securities.
(3) Represents 1,143,905 Series B preferred units and 106,627 Series B-1 preferred units. Sebastián Bernales, a manager on our board of managers, is an affiliate of Humboldt Fund. Humboldt Fund I, LP is an affiliated fund of Humboldt Fund. Humboldt Fund I, LP holds more than 5 percent of our voting securities.
(4) Represents 600,883 Series B preferred units and 99,519 Series B-1 preferred units purchased by RA Capital Healthcare Fund, L.P., and 257,522 Series B preferred units and 42,651 Series B-1 preferred units purchased by RA Capital Nexus Fund II, L.P. Entities affiliated with RA Capital collectively hold more than 5 percent of our voting securities.
(5) Represents 429,202 Series B preferred units and 386,861 Series B-1 preferred units purchased by Sozo Ventures III, L.P. Entities affiliated with Sozo Ventures collectively hold more than 5 percent of our voting securities.

Agreements with Unitholders

In connection with our Series A-1, Series A-2, Series A-3, Series A-4, and Series A-5 preferred unit financings and our Series B preferred unit financing, we entered into investors' rights, voting and right of first refusal and co-sale agreements containing registration rights, information rights, voting rights and rights of first refusal, among other things, with certain holders of our preferred units and certain holders of our common units. These unitholder agreements will terminate upon the closing of this offering, except for the registration rights granted under our investors' rights agreement, as more fully described in "Description of Capital Stock—Registration Rights."

In connection with our Series A-4 preferred unit financing, we entered into a side letter agreement (the "Humboldt Side Letter"), with Humboldt Fund I, LP ("Humboldt"). Pursuant to the Humboldt Side Letter, we represented and warranted to Humboldt regarding certain U.S. tax status and CFIUS matters. We agreed that Humboldt would not be deemed a competitor for any purpose under the financing agreements. We further agreed to use commercially reasonable efforts to comply with all record-keeping, reporting and other reasonable request necessary to comply with any applicable U.S. tax law or to allow Humboldt and its Partners to comply with the applicable provisions of U.S. tax law with respect to the direct or indirect ownership of the Company.

In connection with our Series A-5 preferred unit financing, we entered into a side letter agreement (the "RA Capital Side Letter"), with RA Capital Healthcare Fund, L.P. and RA Capital Nexus Fund II, L.P. (collectively, "RA Capital"). Pursuant to the RA Capital Side Letter, RA Capital is entitled to purchase a portion of the preferred units in the

event that the Company sells preferred units in a single transaction or series of related transactions following the date of the RA Capital Side Letter, primarily for capital raising purposes, with gross proceeds to the Company in excess of $10,000,000. In addition, the Series A-5 preferred units held by RA Capital shall not be automatically converted into common units without the prior written approval of RA Capital, but shall remain subject to conversion immediately upon the closing of this offering.

We entered into a research and development master service agreement (the "Bayer R&D Agreement"), with Bayer Healthcare LLC ("Bayer"), in November 2019. Bayer was performing research and development services under the Bayer R&D Agreement in accordance with the statement of works agreed by the parties. Services under the Bayer R&D Agreement were completed as of December 31, 2020, and we accrued $0.2 million in accrued expenses and other current liabilities as of December 31, 2020. We paid $0.2 million to Bayer in February and March 2021 in connection with the Bayer R&D Agreement.

Convertible Promissory Note with Affini-T

In December 2020, we entered into a convertible promissory note agreement and a side letter with Affini-T Therapeutics, Inc. ("Affini-T"), a private biotechnology company. We paid cash of $1.5 million as a principal amount of the promissory note with 6% annual interest and maturity in December 2021. The promissory note was convertible in Affini-T's next qualifying round of financing at a conversion price equal to the lesser of (i) 85% of the price per share paid by other investors (or 80% if the qualified financing occurs after June 24, 2021) or (ii) the price per share obtained by dividing $30.0 million by the number of shares of common stock of Affini-T outstanding immediately prior to the qualified financing. In accordance with the side letter, we were engaged to perform the certain services for Affini-T. As a consideration for services, we received 1,867,300 shares of Affini-T common stock, of which 10% of such shares were vested at the issuance date and 90% of such shares were subject to forfeiture if no genome editing licensing agreement was finalized between us and Affini-T by October 31, 2021. Effective November 1, 2021, 1,653,570 common stock shares issued to us were forfeited and cancelled as the license agreement was not signed between the parties. When we entered into the convertible promissory note, our chief business officer at the time also served as chief executive officer of Affini-T. Our chief business officer departed the company in November 2021 and Affini-T was no longer a related party of the company as of December 31, 2021.

In March 2022, Affini-T closed a qualified round of financing, and the convertible promissory note and accrued interest were converted into 527,035 shares of Series A convertible preferred stock of Affini-T.

Equity Grants to Executive Officers

We have historically granted profits interests to our named executive officers as more fully described in the section entitled "Executive Compensation".

Indemnification Agreements

In connection with this offering, we intend to enter into new agreements to indemnify our directors and executive officers. These agreements will, among other things, require us to indemnify these individuals for certain expenses (including attorneys' fees), judgments, fines and settlement amounts reasonably incurred by such person in any action or proceeding, including any action by or in our right, on account of any services undertaken by such person on behalf of our company or that person's status as a member of our board of directors to the maximum extent allowed under Delaware law.

Policies for Approval of Related Party Transactions

Our board of directors reviews and approves transactions with directors, officers, and holders of five percent or more of our voting securities and their affiliates, each a related party. Prior to this offering, the material facts as to the related party's relationship or interest in the transaction were disclosed to our board of directors prior to their consideration of such transaction, and the transaction was not considered approved by our board of directors unless a majority of the directors who are not interested in the transaction approved the transaction. Further, when stockholders are entitled to vote on a transaction with a related party, the material facts of the related party's relationship or interest in the transaction were disclosed to the stockholders, who must approve the transaction in good faith.

In connection with this offering, we expect to adopt a written related party transactions policy that will provide that such transactions must be approved by our audit committee. This policy will become effective on the date on which the registration statement of which this prospectus forms a part is declared effective by the SEC. Pursuant to this policy, the audit committee has the primary responsibility for reviewing and approving or disapproving "related party transactions," which are transactions between us and related persons in which the aggregate amount involved exceeds or may be expected to exceed $120,000 and in which a related person has or will have a direct or indirect material interest. For purposes of this policy, a related person will be defined as a director, executive officer, nominee for director, or greater than 5 percent beneficial owner of our common stock, in each case since the beginning of the most recently completed year, and their immediate family members.

PRINCIPAL STOCKHOLDERS

The following table sets forth, as of September 30, 2023, information regarding the beneficial ownership of our common stock by:

- each person, or group of affiliated persons, who is known by us to be the beneficial owner of five percent or more of our outstanding common stock (on an as-converted to common stock basis);
- each of our directors;
- each of our named executive officers; and
- all of our current directors and executive officers as a group.

The information in the following table gives effect to the Reorganization and is calculated based on shares of common stock deemed to be outstanding before this offering and shares of common stock outstanding after this offering, assuming no exercise by the underwriters of their option to purchase additional shares of common stock. The number of shares outstanding is based on the number of shares of common stock outstanding (including shares of unvested restricted common stock) as of September 30, 2023 as adjusted to give effect to:

- the conversion of shares of our redeemable convertible preferred stock outstanding as of September 30, 2023 into an equivalent number of shares of our common stock, which will occur immediately prior to the completion of this offering; and
- the sale of shares of common stock in this offering (assuming no exercise of the underwriters' option to purchase additional shares).

Each individual or entity shown on the table has furnished information with respect to beneficial ownership. Except as otherwise indicated below, the address of each officer, director and five percent stockholder listed below is c/o Metagenomi Technologies, LLC, 1545 Park Avenue, Emeryville, California 94608.

We have determined beneficial ownership in accordance with the rules of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities as well as any shares of common stock that the person has the right to acquire within 60 days of September 30, 2023 through the exercise of stock options or other rights. These shares are deemed to be outstanding and beneficially owned by the person holding those options for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Unless otherwise indicated, the persons or entities identified in this table have sole voting and investment power with respect to all shares shown as beneficially owned by them.

	Shares of common stock beneficially owned	Percentage of shares beneficially owned	
		Before offering	After offering
5% or Greater Stockholders			
Bayer HealthCare LLC			
Humboldt Fund I, LP (1)			
ModernaTX, Inc.			
Sake Holdings LLC (2)			
Entities affiliated with Sozo Ventures			
Entities affiliated with RA Capital			
Directors, Named Executive Officers and Other Executive Officers			
Brian C. Thomas, Ph.D.			
Juergen Eckhardt, M.D., MBA			
Sebastián Bernales, Ph.D.			
Risa Stack, Ph.D.			
Willard Dere, M.D.			
Santhosh Palani, Ph.D.			
Jian Irish, Ph.D., MBA			
Simon Harnest, MSc			
All executive officers and directors as a group (12 persons)			

* Less than one percent.

(1) Consists of shares of redeemable convertible preferred stock held by Humboldt Fund I, LP. Humboldt Fund I, LP is solely managed by Humboldt Capital, LLC, which is in turn managed by Sebastian Bernales, Francisco Dopazo and Benjamin Quiroga. As a result, each such individual may be deemed to share voting and dispositive power with respect to the shares held by Humboldt Fund I, LP. Each of Mr. Bernales, Dopazo and Quiroga expressly disclaims beneficial ownership of the shares held by Humboldt Fund I, LP, except to the extent of his pecuniary interest in such shares. The address for Humboldt Fund I, LP is 477 Madison Ave., 6th Floor, New York, NY 10022.

(2) Consists of shares of redeemable convertible preferred stock held by Sake Holdings LLC. Sake Holdings LLC is managed by its board of directors which consists of Sebastian Bernales and Eduardo Ergas. As a result, each such individual may be deemed to share voting and dispositive power with respect to the shares held by Sake Holdings LLC. Each of Mr. Bernales and Mr. Ergas expressly disclaims beneficial ownership of the shares held by Sake Holdings LLC, except to the extent of his pecuniary interest in such shares. The address for Sake Holdings LLC is 1700 Owens Street, Suite 515, San Francisco, CA 94158.

DESCRIPTION OF CAPITAL STOCK

The following descriptions are summaries of the material terms of our amended and restated certificate of incorporation and amended and restated bylaws, which will be effective immediately upon the closing of this offering. The descriptions of the common stock and preferred stock give effect to changes to our capital structure, including the Reorganization, that will occur prior to the effectiveness of this registration statement. We refer in this section to our amended and restated certificate of incorporation as our certificate of incorporation, and we refer to our amended and restated bylaws as our bylaws.

General

Upon completion of this offering, our authorized capital stock will consist of shares of common stock, par value $ per share, and shares of preferred stock, par value $ per share, all of which shares of preferred stock will be undesignated.

As of September 30, 2023, shares of our common stock were outstanding and held of record by stockholders, after giving effect to the Reorganization. This amount assumes the conversion of shares of our redeemable convertible preferred stock outstanding as of September 30, 2023 into an equivalent number of shares of our common stock, which will occur immediately prior to the closing of this offering.

Common Stock

The holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of the common stockholders. The holders of our common stock do not have any cumulative voting rights. Holders of our common stock are entitled to receive ratably any dividends declared by our board of directors out of funds legally available for that purpose, subject to any preferential dividend rights of any outstanding preferred stock. Our common stock has no preemptive rights, conversion rights or other subscription rights or redemption or sinking fund provisions.

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in all assets remaining after payment of all debts and other liabilities and any liquidation preference of any outstanding preferred stock. The shares to be issued by us in this offering will be, when issued and paid for, validly issued, fully paid and non-assessable.

Preferred Stock

Immediately prior to the completion of this offering, all outstanding shares of our preferred stock will be converted into shares of our common stock. Upon the closing of this offering, our board of directors will have the authority, without further action by our stockholders, to issue up to shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting, or the designation of, such series, any or all of which may be greater than the rights of common stock. The issuance of our preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon our liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change in control of our company or other corporate action. Immediately after consummation of this offering, no shares of preferred stock will be outstanding, and we have no present plan to issue any shares of preferred stock.

Options

We expect to reserve shares of common stock for future issuance under the 2024 Plan.

Registration Rights

Upon the completion of this offering, the holders of shares of our common stock, including those issuable upon the conversion of preferred stock upon closing of this offering, will be entitled to rights with respect to the registration of these securities under the Securities Act. These rights are provided under the terms of an amended and restated investors' rights agreement between us, certain holders of our common stock and holders of our preferred stock. The amended and restated investors' rights agreement includes demand registration rights, short-form registration rights and piggyback registration rights. All fees, costs, and expenses of underwritten registrations under this agreement will be borne by us and all selling expenses, including underwriting discounts and selling commissions, will be borne by the holders of the shares being registered.

Demand Registration Rights

Beginning 180 days after the effective date of this registration statement, the holders of shares of our common stock, including those issuable upon the conversion of shares of our preferred units upon closing of this offering, are entitled to demand registration rights. Under the terms of the amended and restated investors' rights agreement, we will be required, upon the written request of holders of at least a majority of the securities eligible for registration then outstanding to file a registration statement with respect to at least a majority of the securities eligible for registration then outstanding, we will be required to file a registration statement within 60 days of such request covering all securities eligible for registration that our securityholders request to be included in such registration. We are required to effect only one registration pursuant to this provision of the amended and restated investors' rights agreement in any twelve-month period.

Short-Form Registration Rights

Pursuant to the amended and restated investors' rights agreement, if we are eligible to file a registration statement on Form S-3, upon the written request of securityholders holding at least twenty percent of the securities eligible for registration then outstanding we will be required to file a Form S-3 registration restatement with respect to outstanding securities of such securityholders having an aggregate price to the public of at least $5 million. We are required to effect only two registrations in any twelve-month period pursuant to this provision of the amended and restated investors' rights agreement. The right to have such shares registered on Form S-3 is further subject to other specified conditions and limitations.

Piggyback Registration Rights

Pursuant to the amended and restated investors' rights agreement, if we register any of our securities either for our own account or for the account of other security holders, the holders of our common stock, including those issuable upon the conversion of our preferred units, are entitled to include their shares in the registration. Subject to certain exceptions contained in the amended and restated investors' rights agreement, we and the underwriters may limit the number of shares included in the underwritten offering to the number of shares which we and the underwriters determine in our sole discretion will not jeopardize the success of the offering.

Indemnification

Our amended and restated investors' rights agreement contains customary cross-indemnification provisions, under which we are obligated to indemnify holders of registrable securities in the event of material misstatements

or omissions in the registration statement attributable to us, and they are obligated to indemnify us for material misstatements or omissions attributable to them.

Expiration of Registration Rights

The demand registration rights, and short form registration rights granted under the amended and restated investors' rights agreement will terminate on the earliest to occur of (a) the closing of certain liquidation events, (b) the fifth anniversary of the completion of this offering or (c) at such time after this offering when the holders' shares may be sold without restriction pursuant to Rule 144 under the Securities Act within a three month period.

Expenses

Ordinarily, other than underwriting discounts and commissions, we are generally required to pay all expenses incurred by us related to any registration effected pursuant to the exercise of these registration rights. These expenses may include all registration and filing fees, printing expenses, fees and disbursements of our counsel, reasonable fees, and disbursements of a counsel for the selling security holders and blue-sky fees and expenses.

Anti-Takeover Effects of Delaware Law and Certain Provisions of Our Certificate of Incorporation and Bylaws to be in Effect Upon the Completion of this Offering

Some provisions of Delaware law include, and our certificate of incorporation and bylaws to be in effect upon the completion of this offering will include a number of provisions that may have the effect of delaying, deferring or preventing another party from acquiring control of us and encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include the items described below.

Board Composition and Filling Vacancies

Our certificate of incorporation will provide for the division of our board of directors into three classes serving staggered three-year terms, with one class being elected each year. Our certificate of incorporation also will provide that directors may be removed only for cause and then only by the affirmative vote of the holders of two-thirds or more of the shares then entitled to vote at an election of directors. Furthermore, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of our board, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum. The classification of directors, together with the limitations on removal of directors and treatment of vacancies, has the effect of making it more difficult for stockholders to change the composition of our board of directors.

No Written Consent of Stockholders

Our certificate of incorporation will provide that all stockholder actions are required to be taken by a vote of the stockholders at an annual or special meeting, and that stockholders may not take any action by written consent in lieu of a meeting. This limit may lengthen the amount of time required to take stockholder actions and would prevent the amendment of our bylaws or removal of directors by our stockholders without holding a meeting of stockholders.

Meetings of Stockholders

Our certificate of incorporation and bylaws will provide that only a majority of the members of our board of directors then in office may call special meetings of stockholders and only those matters set forth in the notice

of the special meeting may be considered or acted upon at a special meeting of stockholders. Our bylaws will limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

Advance Notice Requirements

Our bylaws will establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures will provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary date of the annual meeting for the preceding year. Our bylaws will specify the requirements as to form and content of all stockholders' notices. These requirements may preclude stockholders from bringing matters before the stockholders at an annual or special meeting.

Amendment to Certificate of Incorporation and Bylaws

Any amendment of our certificate of incorporation must first be approved by a majority of our board of directors, and if required by law or our certificate of incorporation, must thereafter be approved by a majority of the outstanding shares entitled to vote on the amendment and a majority of the outstanding shares of each class entitled to vote thereon as a class, except that the amendment of the provisions relating to stockholder action, board composition, limitation of liability and the amendment of our bylaws and certificate of incorporation must be approved by not less than two-thirds of the outstanding shares entitled to vote on the amendment, and not less than two-thirds of the outstanding shares of each class entitled to vote thereon as a class. Our bylaws may be amended by the affirmative vote of a majority of the directors then in office, subject to any limitations set forth in the bylaws; and may also be amended by the affirmative vote of at least two-thirds of the outstanding shares entitled to vote on the amendment, or, if our board of directors recommends that the stockholders approve the amendment, by the affirmative vote of the majority of the outstanding shares entitled to vote on the amendment, in each case voting together as a single class.

Undesignated Preferred Stock

Our certificate of incorporation will provide for authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our certificate of incorporation will grant our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

Delaware Anti-Takeover Statute

Upon completion of this offering, we will be subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a three-year period following the time that this

stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became interested, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85 percent of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances, but not the outstanding voting stock owned by the interested stockholder; or
- at or after the time the stockholder became interested, the business combination was approved by our board of directors and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, lease, pledge, exchange, mortgage or other disposition involving the interested stockholder of 10 percent or more of the assets of the corporation;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15 percent or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

Choice of Forum

Our bylaws will provide that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for any state law claims for (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, and employees to us or our stockholders, (3) any action asserting a claim arising pursuant to the Delaware General Corporation Law, our certificate of incorporation or our bylaws (including the interpretation, validity or enforceability thereof), or (4) any action asserting a claim that is governed by the internal affairs doctrine; provided, however, that the this provision shall not apply to any causes of action arising under the Securities Act or Exchange Act. In addition, our bylaws will provide that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States shall be the sole and exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. Any person or entity purchasing or otherwise acquiring any interest in our securities shall be deemed to have notice of and consented to these forum provisions. These forum provisions may impose additional costs on stockholders, may limit our stockholders' ability to bring a claim in a forum they find favorable, and the designated courts may reach different judgments or results than other courts. In addition, there is uncertainty as to whether the federal forum provision for Securities Act claims will be enforced, which may impose additional costs on us and our stockholders.

Stock Exchange Listing

We have applied to list our common stock on the Nasdaq Global Select Market under the proposed trading symbol “MGX.” The closing of this offering is contingent upon such listing.

Transfer Agent and Registrar

The Transfer Agent and Registrar for our common stock will be .

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for our shares. Future sales of our common stock in the public market, or the availability of such shares for sale in the public market, could adversely affect market prices prevailing from time to time. As described below, only a limited number of shares will be available for sale shortly after this offering due to contractual and legal restrictions on resale. Nevertheless, sales of shares of our common stock in the public market after such restrictions lapse, or the perception that those sales may occur, could adversely affect the prevailing market price at such time and our ability to raise equity capital in the future.

Based on the number of shares outstanding as of September 30, 2023, upon the completion of this offering and after giving effect to the Reorganization, shares of our common stock will be outstanding, assuming the issuance of shares offered by us in this offering, no exercise of the underwriters' option to purchase additional shares and no exercise of outstanding options. Of the outstanding shares, all of the shares sold in this offering will be freely tradable, except that any shares held by our affiliates, as that term is defined in Rule 144 under the Securities Act, may only be sold in compliance with the limitations described below, and restricted shares of common stock are subject to time-based vesting terms. All remaining shares of common stock held by existing stockholders immediately prior to the completion of this offering will be "restricted securities" as such term is defined in Rule 144 under the Securities Act. These restricted securities were issued and sold by us in private transactions and are eligible for public sale only if registered under the Securities Act or if they qualify for an exemption from registration under the Securities Act, including the exemptions provided by Rule 144 or Rule 701, summarized below.

Rule 144

In general, a person who has beneficially owned restricted stock for at least six months would be entitled to sell their securities provided that (i) such person is not deemed to have been one of our affiliates at the time of, or at any time during the 90 days preceding, a sale and (ii) we are subject to the periodic reporting requirements of the Exchange Act for at least 90 days before the sale. Persons who have beneficially owned restricted shares for at least six months but who are our affiliates at the time of, or any time during the 90 days preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any three-month period only a number of securities that does not exceed the greater of either of the following:

- 1 percent of the number of shares then outstanding, which will equal approximately shares immediately after this offering, assuming no exercise of the underwriters' option to purchase additional shares, based on the number of shares outstanding as of September 30, 2023; or
- the average weekly trading volume of our common stock on the Nasdaq Global Select Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale;

provided, in each case, that we are subject to the periodic reporting requirements of the Exchange Act for at least 90 days before the sale. Such sales both by affiliates and by non-affiliates must also comply with the manner of sale, current public information and notice provisions of Rule 144.

Rule 701

Rule 701 under the Securities Act, as in effect on the date of this prospectus, permits resales of shares in reliance upon Rule 144 but without compliance with certain restrictions of Rule 144, including the holding period requirement. Most of our employees, executive officers or directors who purchased shares under a written compensatory plan or contract may be entitled to rely on the resale provisions of Rule 701, but all holders of Rule 701 shares are required to wait until 90 days after the date of this prospectus before selling their shares.

However, substantially all Rule 701 shares are subject to lock-up agreements as described below and under “Underwriting” included elsewhere in this prospectus and will become eligible for sale upon the expiration of the restrictions set forth in those agreements.

Lock-Up Agreements

We, all of our directors and officers, and substantially all of our stockholders have agreed not to sell or otherwise transfer or dispose of any of our securities for a period of 180 days from the date of this prospectus, subject to certain exceptions. The representatives of the underwriters may, in their sole discretion, permit early release of shares subject to the lock-up agreements. See the section entitled “Underwriting,” included elsewhere in this prospectus for more information.

Registration Rights

Upon completion of this offering, certain holders of our securities will be entitled to various rights with respect to registration of their shares under the Securities Act. Registration of these shares under the Securities Act would result in these shares becoming fully tradable without restriction under the Securities Act immediately upon the effectiveness of the registration. See the section entitled “Description of Capital Stock—Registration Rights” included elsewhere in this prospectus for more information.

Equity Incentive Plans

We intend to file one or more registration statements on Form S-8 under the Securities Act to register our shares issued or reserved for issuance under our equity incentive plans. The first such registration statement is expected to be filed soon after the date of this prospectus and will automatically become effective upon filing with the SEC. Accordingly, shares registered under such registration statement will be available for sale in the open market, unless such shares are subject to vesting restrictions with us or the lock-up restrictions described above. As of the date of this prospectus, we estimate that such registration statement on Form S-8 will cover approximately shares.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS

The following discussion is a summary of certain material U.S. federal income tax considerations applicable to non-U.S. holders (as defined below) with respect to their ownership and disposition of shares of our common stock issued pursuant to this offering, referred to below as "our common stock". For purposes of this discussion, a non-U.S. holder means a beneficial owner of our common stock that is for U.S. federal income tax purposes:

- a non-resident alien individual;
- a foreign corporation or other foreign organization taxable as a corporation; or
- a foreign trust or estate the income of which is not subject to U.S. federal income tax on a net income basis.

This discussion does not address the tax treatment of partnerships or other entities that are pass-through entities for U.S. federal income tax purposes or persons that hold their common stock through partnerships or other pass-through entities. A partner in a partnership or other pass-through entity that will hold our common stock should consult his, her or its tax advisor regarding the tax consequences of acquiring, holding and disposing of our common stock through a partnership or other pass-through entity, as applicable.

This discussion is based on current provisions of the U.S. Internal Revenue Code of 1986, as amended, which we refer to as the Code, existing and proposed U.S. Treasury Regulations promulgated thereunder, current administrative rulings and judicial decisions, all as in effect as of the date of this prospectus and, all of which are subject to change or to differing interpretation, possibly with retroactive effect. Any such change or differing interpretation could alter the tax consequences to non-U.S. holders described in this prospectus. There can be no assurance that the Internal Revenue Service, which we refer to as the IRS, will not challenge one or more of the tax consequences described herein. We assume in this discussion that a non-U.S. holder holds shares of our common stock as a capital asset within the meaning of Section 1221 of the Code, generally property held for investment.

This discussion does not address all aspects of U.S. federal income taxation that may be relevant to a particular non-U.S. holder in light of that non-U.S. holder's individual circumstances nor does it address any aspects of U.S. state, local or non-U.S. taxes, the alternative minimum tax, the Medicare contribution tax on net investment income, the rules regarding qualified small business stock within the meaning of Section 1202 of the Code, or any other aspect of any U.S. federal tax other than income taxes. This discussion also does not consider any specific facts or circumstances that may apply to a non-U.S. holder and does not address the special tax rules applicable to particular non-U.S. holders, such as:

- insurance companies;
- tax-exempt or governmental organizations;
- financial institutions;
- brokers or dealers in securities;
- "regulated investment companies" and "real estate investment trusts";
- pension plans;
- "controlled foreign corporations," "passive foreign investment companies," and corporations that accumulate earnings to avoid U.S. federal income tax;
- "qualified foreign pension funds," or entities wholly owned by a "qualified foreign pension fund";

- partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes (and partners and investors therein);
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons who have elected to mark securities to market for U.S. federal income tax purposes;
- persons that hold our common stock as part of a straddle, conversion transaction, synthetic security, or other integrated investment; and
- U.S. expatriates.

This discussion is for general information only and is not tax advice. Accordingly, all prospective non-U.S. holders of our common stock should consult their tax advisors with respect to the U.S. federal, state, local and non-U.S. tax consequences of the purchase, ownership and disposition of our common stock.

Distributions on Our Common Stock

We have never declared or paid any cash distributions on our members' capital, and we do not anticipate paying cash distributions on our common stock for the foreseeable future. Distributions, if any, on our common stock will generally constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a tax-free return of the non-U.S. holder's investment, up to such holder's tax basis in the common stock. Any remaining excess will be treated as capital gain, subject to the tax treatment described below in "Gain on Sale or Other Taxable Disposition of Our Common Stock." Any such distributions will also be subject to the discussions below under the sections entitled "Backup Withholding and Information Reporting" and "Withholding and Information Reporting Requirements—FATCA."

Subject to the discussion in the following two paragraphs in this section, dividends paid to a non-U.S. holder generally will be subject to withholding of U.S. federal income tax at a 30 percent rate or a reduced rate specified by an applicable income tax treaty between the United States and such holder's country of residence.

Dividends that are treated as effectively connected with a trade or business conducted by a non-U.S. holder within the United States and, if an applicable income tax treaty so provides, that are attributable to a permanent establishment or a fixed base maintained by the non-U.S. holder within the United States, are generally exempt from the 30 percent withholding tax if the non-U.S. holder satisfies applicable certification requirements. However, such U.S. effectively connected income, net of specified deductions and credits, is taxed at the same graduated U.S. federal income tax rates applicable to United States persons (as defined in the Code). Any U.S. effectively connected income received by a non-U.S. holder that is a corporation may also, under certain circumstances, be subject to an additional "branch profits tax" at a 30 percent rate or a reduced rate specified by an applicable income tax treaty between the United States and such holder's country of residence.

A non-U.S. holder of our common stock who claims the benefit of an applicable income tax treaty between the United States and such holder's country of residence generally will be required to provide a properly executed IRS Form W-8BEN or W-8BEN-E (or other applicable or successor form) to the applicable withholding agent and satisfy applicable certification and other requirements. Any documentation provided to an applicable withholding agent may need to be updated in certain circumstances. Non-U.S. holders are urged to consult their tax advisors regarding their entitlement to benefits under a relevant income tax treaty. A non-U.S. holder that is eligible for a reduced rate of U.S. withholding tax under an income tax treaty may obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim with the IRS.

Gain on Sale or Other Taxable Disposition of Our Common Stock

Subject to the discussions below under “Backup Withholding and Information Reporting” and “Withholding and Information Reporting Requirements—FATCA,” a non-U.S. holder generally will not be subject to any U.S. federal income or withholding tax on any gain realized upon such holder’s sale or other taxable disposition of shares of our common stock unless:

- the gain is effectively connected with the non-U.S. holder’s conduct of a U.S. trade or business and, if an applicable income tax treaty so provides, is attributable to a permanent establishment or a fixed base maintained by such non-U.S. holder in the United States, in which case the non-U.S. holder generally will be taxed on a net income basis at the graduated U.S. federal income tax rates applicable to United States persons (as defined in the Code) and, if the non-U.S. holder is a foreign corporation, the branch profits tax described above in “Distributions on Our Common Stock” also may apply;
- the non-U.S. holder is a nonresident alien individual who is present in the United States for a period or periods aggregating 183 days or more in the taxable year of the disposition and certain other conditions are met, in which case the non-U.S. holder will be subject to a 30 percent tax (or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder’s country of residence) on the net gain derived from the disposition, which may be offset by certain U.S. source capital losses of the non-U.S. holder, if any (even though the individual is not considered a resident of the United States), provided that the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses; or
- we are, or have been, at any time during the five-year period preceding such sale or other taxable disposition (or the non-U.S. holder’s holding period, if shorter) a “U.S. real property holding corporation,” as described below, unless our common stock is regularly traded on an established securities market and the non-U.S. holder holds no more than 5 percent of our outstanding common stock, directly or indirectly, actually or constructively, during the shorter of the 5-year period ending on the date of the disposition or the period that the non-U.S. holder held our common stock. Generally, a corporation is a U.S. real property holding corporation if the fair market value of its U.S. real property interests, as defined in the Code and applicable Treasury regulations, equals or exceeds 50 percent of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. Although there can be no assurance, we do not believe that we are, or have been, a U.S. real property holding corporation, or that we are likely to become one in the future. No assurance can be provided that our common stock will be regularly traded on an established securities market for purposes of the rules described above.

Backup Withholding and Information Reporting

We (or the applicable paying agent) must report annually to the IRS and to each non-U.S. holder the gross amount of the distributions on our common stock paid to such holder and the tax withheld, if any, with respect to such distributions. A non-U.S. holder may have to comply with specific certification procedures to establish that the holder is not a United States person (as defined in the Code) in order to avoid backup withholding at the applicable rate with respect to dividends on our common stock. Dividends paid to non-U.S. holders subject to withholding of U.S. federal income tax, as described above in “Distributions on Our Common Stock,” generally will be exempt from U.S. backup withholding.

Information reporting and backup withholding will generally apply to the proceeds of a disposition of our common stock by a non-U.S. holder effected by or through the U.S. office of any broker, U.S. or foreign, unless the holder certifies its status as a non-U.S. holder and satisfies certain other requirements, or otherwise establishes an exemption. Generally, information reporting and backup withholding will not apply to a payment of disposition proceeds to a non-U.S. holder where the transaction is effected outside the United States through

a non-U.S. office of a broker. However, for information reporting purposes, dispositions effected through a non-U.S. office of a broker with substantial U.S. ownership or operations generally will be treated in a manner similar to dispositions effected through a U.S. office of a broker.

Non-U.S. holders should consult their tax advisors regarding the application of the information reporting and backup withholding rules to them. Copies of information returns may be made available to the tax authorities of the country in which the non-U.S. holder resides or is incorporated under the provisions of a specific treaty or agreement. Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment to a non-U.S. holder can be refunded or credited against the non-U.S. holder's U.S. federal income tax liability, if any, provided that an appropriate claim is filed with the IRS in a timely manner.

Withholding and Information Reporting Requirements—FATCA

Provisions of the Code commonly referred to as the Foreign Account Tax Compliance Act (FATCA) generally impose a U.S. federal withholding tax at a rate of 30 percent on payments of dividends on, or, subject to the discussion of certain proposed U.S. Treasury regulations below, gross proceeds from the sale or other disposition of, our common stock paid to a foreign entity unless (i) if the foreign entity is a "foreign financial institution," such foreign entity undertakes certain due diligence, reporting, withholding, and certification obligations, (ii) if the foreign entity is not a "foreign financial institution," such foreign entity identifies certain of its U.S. investors, if any, or (iii) the foreign entity is otherwise exempt under FATCA. However, the U.S. Treasury released proposed regulations which, if finalized in their present form, would eliminate the federal withholding tax of 30 percent applicable to the gross proceeds of a sale or other disposition of our common stock. In the preamble to such proposed regulations, the U.S. Treasury stated that taxpayers (including withholding agents) may generally rely on the proposed regulations until final regulations are issued. Under certain circumstances, a non-U.S. holder may be eligible for refunds or credits of this withholding tax. An intergovernmental agreement between the United States and an applicable foreign country may modify the requirements described in this paragraph. Non-U.S. holders should consult their tax advisors regarding the possible implications of this legislation on their investment in our common stock and the entities through which they hold our common stock, including, without limitation, the process and deadlines for meeting the applicable requirements to prevent the imposition of the 30 percent withholding tax under FATCA.

UNDERWRITING

We are offering the shares of common stock described in this prospectus through a number of underwriters. J.P. Morgan Securities LLC, Jefferies LLC, Cowen and Company, LLC, Wells Fargo Securities, LLC, and BMO Capital Markets Corp. are acting as joint book-running managers of the offering and as representatives of the underwriters. We have entered into an underwriting agreement with the underwriters. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to the underwriters, and each underwriter has severally agreed to purchase, at the public offering price less the underwriting discounts and commissions set forth on the cover page of this prospectus, the number of shares of common stock listed next to its name in the following table:

Name	Number of shares of common stock
J.P. Morgan Securities LLC	
Jefferies LLC	
Cowen and Company, LLC	
Wells Fargo Securities, LLC	
BMO Capital Markets Corp.	
Chardan Capital Markets, LLC	
Total	

The underwriters are committed to purchase all the shares of common stock offered by us if they purchase any shares of common stock. The underwriting agreement also provides that if an underwriter defaults, the purchase commitments of non-defaulting underwriters may also be increased, or the offering may be terminated.

The underwriters propose to offer the shares of common stock directly to the public at the initial public offering price set forth on the cover page of this prospectus and to certain dealers at that price less a concession not in excess of $ per share. Any such dealers may resell shares of common stock to certain other brokers or dealers at a discount of up to $ per share from the initial public offering price. After the initial offering of the shares of common stock to the public, if all of the shares of common stock are not sold at the initial public offering price, the underwriters may change the offering price and the other selling terms. Sales of any shares of common stock made outside of the United States may be made by affiliates of the underwriters.

The underwriters have an option to buy up to additional shares of common stock from us to cover sales of shares of common stock by the underwriters which exceed the number of shares of common stock specified in the table above. The underwriters have 30 days from the date of this prospectus to exercise this option to purchase additional shares of common stock. If any shares of common stock are purchased with this option to purchase additional shares of common stock, the underwriters will purchase shares of common stock in approximately the same proportion as shown in the table above. If any additional shares of common stock are purchased, the underwriters will offer the additional shares of common stock on the same terms as those on which the shares of common stock are being offered.

The underwriting fee is equal to the public offering price per share of common stock less the amount paid by the underwriters to us per share of common stock. The underwriting fee is $ per share. The following table shows the per share and total underwriting discounts and commissions to be paid to the underwriters assuming both no exercise and full exercise of the underwriters' option to purchase additional shares of common stock.

	Without option to purchase additional shares of common stock exercise	With full option to purchase additional shares of common stock exercise
Per Common Share	$	$
Total	$	$

We estimate that the total expenses of this offering, including registration, filing, and listing fees, printing fees and legal and accounting expenses, but excluding the underwriting discounts and commissions, will be approximately $ million. We have agreed to reimburse the underwriters for expenses relating to clearance of this offering with the Financial Industry Regulatory Authority, Inc. of up to $.

A prospectus in electronic format may be made available on the web sites maintained by one or more underwriters, or selling group members, if any, participating in the offering. The underwriters may agree to allocate a number of shares of common stock to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters and selling group members that may make Internet distributions on the same basis as other allocations.

We have agreed that we will not (i) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of, directly or indirectly, or submit to, or file with, the SEC a registration statement under the Securities Act relating to, any of our shares of common stock or securities convertible into or exercisable or exchangeable for any of our shares of common stock, or publicly disclose the intention to make any offer, sale, pledge, loan, disposition or filing, or (ii) enter into any swap or other arrangement that transfers all or a portion of the economic consequences associated with the ownership of any shares of common stock or any such other securities (regardless of whether any of these transactions are to be settled by the delivery of shares of common stock or such other securities, in cash or otherwise), in each case without the prior written consent of the representatives for a period of 180 days after the date of this prospectus, other than the shares of our common stock to be sold in this offering.

Our directors and executive officers, and substantially all of our stockholders (such persons, the "lock-up parties") have entered into lock-up agreements with the underwriters prior to the commencement of this offering pursuant to which each lock-up party, with limited exceptions, for a period of 180 days after the date of this prospectus (such period, the "restricted period"), may not (and may not cause any of their direct or indirect affiliates to), without the prior written consent of the representatives, (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of our common stock or any securities convertible into or exercisable or exchangeable for our common stock (including without limitation, common stock or such other securities which may be deemed to be beneficially owned by such lock-up parties in accordance with the rules and regulations of the SEC and securities which may be issued upon exercise of a stock option or warrant (collectively with the common stock, the "lock-up securities"), (2) enter into any hedging, swap or other agreement or transaction that transfers, in whole or in part, any of the economic consequences of ownership of the lock-up securities, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of lock-up securities, in cash or otherwise, (3) make any

demand for, or exercise any right with respect to, the registration of any lock-up securities, or (4) publicly disclose the intention to do any of the foregoing. Such persons or entities have further acknowledged that these undertakings preclude them from engaging in any hedging or other transactions or arrangements (including, without limitation, any short sale or the purchase or sale of, or entry into, any put or call option, or combination thereof, forward, swap or any other derivative transaction or instrument, however described or defined) designed or intended, or which could reasonably be expected to lead to or result in, a sale or disposition or transfer (by any person or entity, whether or not a signatory to such agreement) of any economic consequences of ownership, in whole or in part, directly or indirectly, of any lock-up securities, whether any such transaction or arrangement (or instrument provided for thereunder) would be settled by delivery of lock-up securities, in cash or otherwise.

The restrictions described in the immediately preceding paragraph and contained In the lock-up agreements between the underwriters and the lock-up parties do not apply, subject in certain cases to various conditions, to certain transactions, including (a) transfers or disposals of lock-up securities: (i) as bona fide gifts, or for bona fide estate planning purposes, (ii) by will or intestacy or any other testamentary document, (iii) to any trust for the direct or indirect benefit of the lock-up party or any immediate family member, (iv) to a corporation, partnership, limited liability company, investment fund or other entity (A) of which the lock-up party and/or its immediate family members are the legal and beneficial owner of all of the outstanding equity securities or similar interests, or (B) controlled by, or under common control with, the undersigned or the immediate family of the undersigned (v) to a nominee or custodian of a person or entity to whom a disposition or transfer would be permissible under clauses (i) through (iv), (vi) in the case of a corporation, partnership, limited liability company, trust or other business entity, (A) to another corporation, partnership, limited liability company, trust or other business entity that is an affiliate of the lock-up party, or to any investment fund or other entity controlling, controlled by, managing or managed by or under common control with the lock-up party or its affiliates or (B) as part of a distribution to limited members, members or stockholders of the lock-up party; (vii) by operation of law, (viii) to us from an employee upon death, disability or termination of employment of such employee, (ix) as part of a sale of lock-up securities acquired in open market transactions after the completion of this offering, (x) to us in connection with the vesting, settlement or exercise of restricted stock units, options, warrants or other rights to purchase shares of our common stock (including “net” or “cashless” exercise), including for the payment of exercise price and tax and remittance payments, or (xi) pursuant to a bona fide third-party tender offer, merger, consolidation or other similar transaction approved by our board of directors and made to all shareholders involving a change in control, provided that if such transaction is not completed, all such lock-up securities would remain subject to the restrictions in the immediately preceding paragraph; provided that (A) in the case of any transfer or distribution pursuant to clause (a)(i), (ii), (iii), (iv), (v), (vi) and (vii), such transfer shall not involve a disposition for value and each donee, devisee, transferee or distributee shall execute and deliver to the representatives a lock-up letter in the form of the lock-up letter, (B) in the case of any transfer or distribution pursuant to clause (a), (iii), (iv), (v), (vi), (ix) and (x) no filing by any party (donor, donee, devisee, transferor, transferee, distributer or distributee) under the Exchange Act, or other public announcement shall be required or shall be made voluntarily in connection with such transfer or distribution (other than a filing on a Form 5 or a filing required pursuant to Section 13 of the Exchange Act and the rules and regulations promulgated thereunder made after the expiration of the restricted period referred to above) and (C) in the case of any transfer or distribution pursuant to clause (a)(i), (ii), (vii) and (viii) it shall be a condition to such transfer that no public filing, report or announcement shall be voluntarily made and if any filing under Section 16(a) of the Exchange Act, or other public filing, report or announcement reporting a reduction in beneficial ownership of shares of common stock in connection with such transfer or distribution shall be legally required during the restricted period, such filing, report or announcement shall clearly indicate in the footnotes thereto the nature and conditions of such transfer; (b) exercise of the options, settlement of RSUs or other equity awards, or the exercise of warrants granted pursuant to plans described in in this

prospectus, provided that any lock-up securities received upon such exercise, vesting or settlement would be subject to restrictions similar to those in the immediately preceding paragraph; (c) the conversion of outstanding preferred stock, warrants to acquire preferred stock, or convertible securities into shares of our common stock or warrants to acquire shares of our common stock, provided that any common stock or warrant received upon such conversion would be subject to restrictions similar to those in the immediately preceding paragraph; and (d) the establishment by lock-up parties of trading plans under Rule 10b5-1 under the Exchange Act, provided that such plan does not provide for the transfer of lock-up securities during the restricted period.

The representatives, in their sole discretion, may release the securities subject to any of the lock-up agreements with the underwriters described above, in whole or in part at any time.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act.

We have applied to have our common stock approved for listing/quotation on the Nasdaq Global Select Market under the symbol “MGX.” The closing of this offering is contingent upon such listing.

In connection with this offering, the underwriters may engage in stabilizing transactions, which involves making bids for, purchasing and selling shares of common stock in the open market for the purpose of preventing or retarding a decline in the market price of the common stock while this offering is in progress. These stabilizing transactions may include making short sales of common stock, which involves the sale by the underwriters of a greater number of shares of common stock than they are required to purchase in this offering, and purchasing shares of common stock on the open market to cover positions created by short sales. Short sales may be “covered” shorts, which are short positions in an amount not greater than the underwriters’ option to purchase additional shares of common stock referred to above, or may be “naked” shorts, which are short positions in excess of that amount. The underwriters may close out any covered short position either by exercising their option to purchase additional shares, in whole or in part, or by purchasing shares of common stock in the open market. In making this determination, the underwriters will consider, among other things, the price of shares of common stock available for purchase in the open market compared to the price at which the underwriters may purchase shares of common stock through the option to purchase additional shares of common stock. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market that could adversely affect investors who purchase in this offering. To the extent that the underwriters create a naked short position, they will purchase shares of common stock in the open market to cover the position.

The underwriters have advised us that, pursuant to Regulation M of the Securities Act, they may also engage in other activities that stabilize, maintain or otherwise affect the price of the common stock, including the imposition of penalty bids. This means that if the representatives of the underwriters purchase common stock in the open market in stabilizing transactions or to cover short sales, the representatives can require the underwriters that sold those shares of common stock as part of this offering to repay the underwriting discount received by them.

These activities may have the effect of raising or maintaining the market price of the common stock or preventing or retarding a decline in the market price of the common stock, and, as a result, the price of the common stock may be higher than the price that otherwise might exist in the open market. If the underwriters commence these activities, they may discontinue them at any time. The underwriters may carry out these transactions on the open market, in the over-the-counter market or otherwise.

Prior to this offering, there has been no public market for our common stock. The initial public offering price will be determined by negotiations between us and the representatives of the underwriters. In determining the initial public offering price, we and the representatives of the underwriters expect to consider a number of factors including:

- the information set forth in this prospectus and otherwise available to the representatives;
- our prospects and the history and prospects for the industry in which we compete;
- an assessment of our management;
- our prospects for future earnings;
- the general condition of the securities markets at the time of this offering;
- the recent market prices of, and demand for, publicly traded common stock of generally comparable companies; and
- other factors deemed relevant by the underwriters and us.

Neither we nor the underwriters can assure investors that an active trading market will develop for our shares of common stock, or that the shares of common stock will trade in the public market at or above the initial public offering price.

Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required. The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

Certain of the underwriters and their affiliates have provided in the past to us and our affiliates and may provide from time to time in the future certain commercial banking, financial advisory, investment banking and other services for us and such affiliates in the ordinary course of their business, for which they have received and may continue to receive customary fees and commissions. In addition, from time to time, certain of the underwriters and their affiliates may effect transactions for their own account or the account of customers, and hold on behalf of themselves or their customers, long or short positions in our debt or equity securities or loans, and may do so in the future.

Notice to Prospective Investors in the European Economic Area

In relation to each Member State of the European Economic Area (each a “Relevant State”), no shares of our common stock have been offered or will be offered pursuant to the offering to the public in that Relevant State prior to the publication of a prospectus in relation to the shares of our common stock which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation), except that offers of shares of common stock may be made to the public in that Relevant State at any time under the following exemptions under the Prospectus Regulation:

a) to any legal entity which is a qualified investor as defined under the Prospectus Regulation;

b) to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of the underwriters for any such offer; or

c) in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of shares of common stock shall require the Issuer or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

Each person in a Relevant State who initially acquires any shares of common stock or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the Company and the underwriters that it is a qualified investor within the meaning of the Prospectus Regulation.

In the case of any shares of common stock being offered to a financial intermediary as that term is used in Article 5(1) of the Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares of common stock acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer to the public other than their offer or resale in a Relevant State to qualified investors, in circumstances in which the prior consent of the underwriters has been obtained to each such proposed offer or resale.

The Company, the underwriters and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this provision, the expression an “offer to the public” in relation to any shares of common stock in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares of common stock to be offered so as to enable an investor to decide to purchase or subscribe for any shares of common stock, and the expression “Prospectus Regulation” means Regulation (EU) 2017/1129.

Notice to Prospective Investors in the United Kingdom

In relation to the United Kingdom (the “UK”), no shares of our common stock have been offered or will be offered pursuant to the offering to the public in the UK prior to the publication of a prospectus in relation to the shares of common stock which has been approved by the Financial Conduct Authority in the UK in accordance with the UK Prospectus Regulation and the FSMA, except that offers of shares of common stock may be made to the public in the UK at any time under the following exemptions under the UK Prospectus Regulation and the FSMA:

(a) to any legal entity which is a qualified investor as defined under the UK Prospectus Regulation;

(b) to fewer than 150 natural or legal persons (other than qualified investors as defined under the UK Prospectus Regulation), subject to obtaining the prior consent of the underwriters for any such offer; or

(c) at any time in other circumstances falling within section 86 of the FSMA,

provided that no such offer of shares of common stock shall require the Issuer or any underwriter to publish a prospectus pursuant to Section 85 of the FSMA or Article 3 of the UK Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation.

Each person in the UK who initially acquires any shares of common stock or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the Company and the underwriters that it is a qualified investor within the meaning of the UK Prospectus Regulation.

In the case of any shares of common stock being offered to a financial intermediary as that term is used in Article 5(1) of the UK Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares of common stock acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer to the public other than their offer or resale in the UK to qualified investors, in circumstances in which the prior consent of the underwriters has been obtained to each such proposed offer or resale.

The Company, the underwriters and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this provision, the expression an "offer to the public" in relation to any shares of our common stock in the UK means the communication in any form and by any means of sufficient information on the terms of the offer and any shares of our common stock to be offered so as to enable an investor to decide to purchase or subscribe for any shares of our common stock, the expression "UK Prospectus Regulation" means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018, and the expression "FSMA" means the Financial Services and Markets Act 2000.

This document is for distribution only to persons who (i) have professional experience in matters relating to investments and who qualify as investment professionals within the meaning of Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the "Financial Promotion Order"), (ii) are persons falling within Article 49(2)(a) to (d) ("high net worth companies, unincorporated associations etc.") of the Financial Promotion Order, (iii) are outside the United Kingdom, or (iv) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA) in connection with the issue or sale of any securities may otherwise lawfully be communicated or caused to be communicated (all such persons together being referred to as "relevant persons"). This document is directed only at relevant persons and must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is available only to relevant persons and will be engaged in only with relevant persons.

Notice to Prospective Investors in Canada

The shares of common stock may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the shares of common stock must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts ("NI 33-105"), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Notice to Prospective Investors in Switzerland

The shares of common stock may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange ("SIX"), or on any other stock exchange or regulated trading facility in Switzerland. This document does not constitute a prospectus within the meaning of, and has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares of common stock, or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the Company, the shares of common stock have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares of common stock will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA ("FINMA"), and the offer of shares of common stock has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes ("CISA"). The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares of common stock.

Notice to Prospective Investors in Hong Kong

The shares of common stock have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong) ("SFO"), of Hong Kong and any rules made thereunder; or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong) ("CO"), or which do not constitute an offer to the public within the meaning of the CO. No advertisement, invitation or document relating to the shares of common stock has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares of common stock which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the SFO and any rules made thereunder.

Notice to Prospective Investors in Singapore

Each joint book-running manager has acknowledged that this prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, each joint book-running manager has represented and agreed that it has not offered or sold any shares of common stock or caused the shares of common stock to be made the subject of an invitation for subscription or purchase and will not offer or sell any shares of common stock or cause the shares of common stock to be made the subject of an invitation for subscription or purchase, and has not circulated or distributed, nor will it circulate or distribute, this prospectus or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares of common stock, whether directly or indirectly, to any person in Singapore other than:

(a) to an institutional investor (as defined in Section 4A of the Securities and Futures Act (Chapter 289) of Singapore, as modified or amended from time to time (the "SFA")) pursuant to Section 274 of the SFA;

(b) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA; or

(c) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares of common stock are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

(a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

(b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor, securities or securities-based derivatives contracts (each term as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares of common stock pursuant to an offer made under Section 275 of the SFA except:

    (i) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;

    (ii) where no consideration is or will be given for the transfer;

    (iii) where the transfer is by operation of law;

    (iv) as specified in Section 276(7) of the SFA; or

    (v) as specified in Regulation 37A of the Securities and Futures (Offers of Investments) (Securities and Securities-based Derivatives Contracts) Regulations 2018.

Singapore SFA Product Classification—In connection with Section 309B of the SFA and the CMP Regulations 2018, unless otherwise specified before an offer of shares of common stock, we have determined, and hereby notify all relevant persons (as defined in Section 309A(1) of the SFA), that the shares of common stock are "prescribed capital markets products" (as defined in the CMP Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

Notice to Prospective Investors in Japan

The shares of common stock have not been and will not be registered pursuant to Article 4, Paragraph 1 of the Financial Instruments and Exchange Act. Accordingly, none of the shares of common stock nor any interest therein may be offered or sold, directly or indirectly, in Japan or to, or for the benefit of, any "resident" of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to or for the benefit of a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Act and any other applicable laws, regulations and ministerial guidelines of Japan in effect at the relevant time.

Notice to Prospective Investors in the United Arab Emirates

The shares of common stock have not been, and are not being, publicly offered, sold, promoted or advertised in the United Arab Emirates (including the Dubai International Financial Centre) other than in compliance with the laws of the United Arab Emirates (and the Dubai International Financial Centre) governing the issue, offering and sale of securities. Further, this prospectus does not constitute a public offer of securities in the United Arab

Emirates (including the Dubai International Financial Centre) and is not intended to be a public offer. This prospectus has not been approved by or filed with the Central Bank of the United Arab Emirates, the Securities and Commodities Authority or the Dubai Financial Services Authority.

Notice to Prospective Investors in Israel

In the State of Israel this prospectus shall not be regarded as an offer to the public to purchase shares of common stock under the Israeli Securities Law, 5728—1968, which requires a prospectus to be published and authorized by the Israel Securities Authority, if it complies with certain provisions of Section 15 of the Israeli Securities Law, 5728–1968, including, inter alia, if: (i) the offer is made, distributed or directed to not more than 35 investors, subject to certain conditions (the "Addressed Investors"); or (ii) the offer is made, distributed or directed to certain qualified investors defined in the First Addendum of the Israeli Securities Law, 5728—1968, subject to certain conditions (the "Qualified Investors"). The Qualified Investors shall not be taken into account in the count of the Addressed Investors and may be offered to purchase securities in addition to the 35 Addressed Investors. We have not and will not take any action that would require it to publish a prospectus in accordance with and subject to the Israeli Securities Law, 5728—1968. We have not and will not distribute this prospectus or make, distribute or direct an offer to subscribe for our shares of common stock to any person within the State of Israel, other than to Qualified Investors and up to 35 Addressed Investors.

Qualified Investors may have to submit written evidence that they meet the definitions set out in of the First Addendum to the Israeli Securities Law, 5728—1968. In particular, we may request, as a condition to be offered shares of common stock, that Qualified Investors will each represent, warrant and certify to us and/or to anyone acting on our behalf: (i) that it is an investor falling within one of the categories listed in the First Addendum to the Israeli Securities Law, 5728—1968; (ii) which of the categories listed in the First Addendum to the Israeli Securities Law, 5728—1968 regarding Qualified Investors is applicable to it; (iii) that it will abide by all provisions set forth in the Israeli Securities Law, 5728—1968 and the regulations promulgated thereunder in connection with the offer to be issued shares of common stock; (iv) that the shares of common stock that it will be issued are, subject to exemptions available under the Israeli Securities Law, 5728—1968: (a) for its own account; (b) for investment purposes only; and (c) not issued with a view to resale within the State of Israel, other than in accordance with the provisions of the Israeli Securities Law, 5728—1968; and (v) that it is willing to provide further evidence of its Qualified Investor status. Addressed Investors may have to submit written evidence in respect of their identity and may have to sign and submit a declaration containing, inter alia, the Addressed Investor's name, address and passport number or Israeli identification number.

Notice to Prospective Investors in Australia

This prospectus:

(a) does not constitute a disclosure document or a prospectus under Chapter 6D.2 of the Corporations Act 2001 (Cth) (the "Corporations Act");

(b) has not been, and will not be, lodged with the Australian Securities and Investments Commission ("ASIC"), as a disclosure document for the purposes of the Corporations Act and does not purport to include the information required of a disclosure document for the purposes of the Corporations Act; and

(c) may only be provided in Australia to select investors who are able to demonstrate that they fall within one or more of the categories of investors, available under section 708 of the Corporations Act ("Exempt Investors").

The shares of common stock may not be directly or indirectly offered for subscription or purchased or sold, and no invitations to subscribe for or buy the shares of common stock may be issued, and no draft or definitive offering

memorandum, advertisement or other offering material relating to any shares of common stock may be distributed in Australia, except where disclosure to investors is not required under Chapter 6D of the Corporations Act or is otherwise in compliance with all applicable Australian laws and regulations. By submitting an application for the shares of common stock, you represent and warrant to us that you are an Exempt Investor.

As any offer of shares of common stock under this document will be made without disclosure in Australia under Chapter 6D.2 of the Corporations Act, the offer of those securities for resale in Australia within 12 months may, under section 707 of the Corporations Act, require disclosure to investors under Chapter 6D.2 if none of the exemptions in section 708 applies to that resale. By applying for the shares of common stock you undertake to us that you will not, for a period of 12 months from the date of issue of the shares of common stock, offer, transfer, assign or otherwise alienate those shares of common stock to investors in Australia except in circumstances where disclosure to investors is not required under Chapter 6D.2 of the Corporations Act or where a compliant disclosure document is prepared and lodged with ASIC.

Notice to Prospective Investors in China

This prospectus will not be circulated or distributed in the PRC and the shares of common stock will not be offered or sold, and will not be offered or sold to any person for re-offering or resale directly or indirectly to any residents of the PRC except pursuant to any applicable laws and regulations of the PRC. Neither this prospectus nor any advertisement or other offering material may be distributed or published in the PRC, except under circumstances that will result in compliance with applicable laws and regulations.

Notice to Prospective Investors in Korea

The shares of common stock have not been and will not be registered under the Financial Investments Services and Capital Markets Act of Korea and the decrees and regulations thereunder (“FSCMA”), and the shares of common stock have been and will be offered in Korea as a private placement under the FSCMA. None of the shares of common stock may be offered, sold or delivered directly or indirectly, or offered or sold to any person for re-offering or resale, directly or indirectly, in Korea or to any resident of Korea except pursuant to the applicable laws and regulations of Korea, including the FSCMA and the Foreign Exchange Transaction Law of Korea and the decrees and regulations thereunder (“FETL”). Furthermore, the purchaser of the shares of common stock shall comply with all applicable regulatory requirements (including but not limited to requirements under the FETL) in connection with the purchase of the shares of common stock. By the purchase of the shares of common stock, the relevant holder thereof will be deemed to represent and warrant that if it is in Korea or is a resident of Korea, it purchased the shares of common stock pursuant to the applicable laws and regulations of Korea.

Notice to Prospective Investors in Saudi Arabia

This document may not be distributed in the Kingdom of Saudi Arabia except to such persons as are permitted under the Offers of Securities Regulations as issued by the board of the Saudi Arabian Capital Market Authority (“CMA”), pursuant to resolution number 2-11-2004 dated 4 October 2004 as amended by resolution number 1-28-2008, as amended (the “CMA Regulations”). The CMA does not make any representation as to the accuracy or completeness of this document and expressly disclaims any liability whatsoever for any loss arising from, or incurred in reliance upon, any part of this document. Prospective purchasers of the shares of common stock offered hereby should conduct their own due diligence on the accuracy of the information relating to the securities. If you do not understand the contents of this document, you should consult an authorized financial adviser.

Notice to Prospective Investors in the Dubai International Financial Centre ("DIFC")

This document relates to an Exempt Offer in accordance with the Markets Rules 2012 of the Dubai Financial Services Authority ("DFSA"). This document is intended for distribution only to persons of a type specified in the Markets Rules 2012 of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus supplement nor taken steps to verify the information set forth herein and has no responsibility for this document. The shares of common stock to which this document relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares of common stock offered should conduct their own due diligence on the securities. If you do not understand the contents of this document, you should consult an authorized financial advisor.

In relation to its use in the DIFC, this document is strictly private and confidential and is being distributed to a limited number of investors and must not be provided to any person other than the original recipient, and may not be reproduced or used for any other purpose. The interests in the securities may not be offered or sold directly or indirectly to the public in the DIFC.

Notice to Prospective Investors in Bermuda

Shares of common stock may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act of 2003 of Bermuda which regulates the sale of securities in Bermuda. Additionally, non-Bermudian persons (including companies) may not carry on or engage in any trade or business in Bermuda unless such persons are permitted to do so under applicable Bermuda legislation.

Notice to prospective investors in the British Virgin Islands

The shares of common stock are not being and may not be offered to the public or to any person in the British Virgin Islands for purchase or subscription by or on behalf of us. The shares of common stock may be offered to companies incorporated under the BVI Business Companies Act, 2004 (British Virgin Islands) (BVI Companies), but only where the offer will be made to, and received by, the relevant BVI Company entirely outside of the British Virgin Islands.

Notice to prospective investors in Taiwan

The shares of common stock have not been and will not be registered with the Financial Supervisory Commission of Taiwan pursuant to relevant securities laws and regulations and may not be sold, issued or offered within Taiwan through a public offering or in circumstances which constitutes an offer within the meaning of the Securities and Exchange Act of Taiwan that requires a registration or approval of the Financial Supervisory Commission of Taiwan. No person or entity in Taiwan has been authorized to offer, sell, give advice regarding or otherwise intermediate the offering and sale of the shares of common stock in Taiwan.

Notice to prospective investors in South Africa

Due to restrictions under the securities laws of South Africa, no "offer to the public" (as such term is defined in the South African Companies Act, No. 71 of 2008 (as amended or re-enacted) (the South African Companies Act), is being made in connection with the issue of the shares of common stock in South Africa. Accordingly, this document does not, nor is it intended to, constitute a "registered prospectus" (as that term is defined in the South African Companies Act) prepared and registered under the South African Companies Act and has not been approved by, and/or filed with, the South African Companies and Intellectual Property Commission or any

other regulatory authority in South Africa. The shares of common stock are not offered, and the offer shall not be transferred, sold, renounced or delivered, in South Africa or to a person with an address in South Africa, unless one or other of the following exemptions stipulated in section 96 (1) applies:

Section 96 (1) (a) the offer, transfer, sale, renunciation or delivery is to:

(i) persons whose ordinary business, or part of whose ordinary business, is to deal in securities, as principal or agent;

(ii) the South African Public Investment Corporation;

(iii) persons or entities regulated by the Reserve Bank of South Africa;

(iv) authorized financial service providers under South African law;

(v) financial institutions recognized as such under South African law;

(vi) a wholly-owned subsidiary of any person or entity contemplated in (iii), (iv) or (v), acting as agent in the capacity of an authorized portfolio manager for a pension fund, or as manager for a collective investment scheme (in each case duly registered as such under South African law); or

(vii) any combination of the person in (i) to (vi); or

Section 96 (1) (b) the total contemplated acquisition cost of the shares of common stock, for any single addressee acting as principal is equal to or greater than ZAR1,000,000 or such higher amount as may be promulgated by notice in the Government Gazette of South Africa pursuant to section 96(2)(a) of the South African Companies Act.

Information made available in this prospectus should not be considered as “advice” as defined in the South African Financial Advisory and Intermediary Services Act, 2002.

Notice to prospective investors in Malaysia

No prospectus or other offering material or document in connection with the offer and sale of the shares of common stock has been or will be registered with the Securities Commission of Malaysia (“Commission”), for the Commission’s approval pursuant to the Capital Markets and Services Act 2007. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares of common stock may not be circulated or distributed, nor may the shares of common stock be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Malaysia other than (i) a closed end fund approved by the Commission; (ii) a holder of a Capital Markets Services License; (iii) a person who acquires the shares of common stock, as principal, if the offer is on terms that the shares of common stock may only be acquired at a consideration of not less than RM250,000 (or its equivalent in foreign currencies) for each transaction; (iv) an individual whose total net personal assets or total net joint assets with his or her spouse exceeds RM3 million (or its equivalent in foreign currencies), excluding the value of the primary residence of the individual; (v) an individual who has a gross annual income exceeding RM300,000 (or its equivalent in foreign currencies) per annum in the preceding twelve months; (vi) an individual who, jointly with his or her spouse, has a gross annual income of RM400,000 (or its equivalent in foreign currencies), per annum in the preceding twelve months; (vii) a corporation with total net assets exceeding RM10 million (or its equivalent in a foreign currencies) based on the last audited accounts; (viii) a partnership with total net assets exceeding RM10 million (or its equivalent in foreign currencies); (ix) a bank licensee or insurance licensee as defined in the Labuan Financial Services and Securities Act 2010; (x) an Islamic bank licensee or takaful licensee as defined in the Labuan Financial Services and Securities Act 2010; and (xi) any other person as may be specified by the Commission; provided that, in the each of the preceding categories (i) to (xi), the distribution of the shares of

common stock is made by a holder of a Capital Markets Services License who carries on the business of dealing in securities. The distribution in Malaysia of this prospectus is subject to Malaysian laws. This prospectus does not constitute and may not be used for the purpose of public offering or an issue, offer for subscription or purchase, invitation to subscribe for or purchase any securities requiring the registration of a prospectus with the Commission under the Capital Markets and Services Act 2007.

Notice to prospective investors in Qatar

The shares of common stock described in this prospectus have not been, and will not be, offered, sold or delivered, at any time, directly or indirectly in the State of Qatar in a manner that would constitute a public offering. This prospectus has not been, and will not be, registered with or approved by the Qatar Financial Markets Authority or Qatar Central Bank and may not be publicly distributed. This prospectus is intended for the original recipient only and must not be provided to any other person. It is not for general circulation in the State of Qatar and may not be reproduced or used for any other purpose.

LEGAL MATTERS

The validity of the shares of common stock offered by this prospectus will be passed upon for us by Goodwin Procter LLP, Boston, Massachusetts. Certain legal matters relating to this offering will be passed upon for the underwriters by Davis Polk & Wardwell LLP, New York, New York.

EXPERTS

The financial statements as of December 31, 2022 and 2021 and for the years then ended included in this Prospectus have been so included in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

In connection with their engagement, PricewaterhouseCoopers LLP ("PwC") notified us that a business relationship existed between a PwC member firm and a beneficial owner that has significant influence ("BOSI") over the Company, whereby the BOSI participated in an online platform operated and maintained by the PwC member firm and had access to dedicated space at the PwC member firm's physical location in which the BOSI and other business partners and innovators participated on such platform and/or within the physical location to exchange experiences and ideas, search for technologies, pose challenges to others to provide proposed solutions, make direct contacts and to meet virtually or in person.

The existence of this business relationship identified is inconsistent with SEC and PCAOB auditor independence rules provided in Rule 2-01 of Regulation S-X. The matter was resolved on June 7, 2023, upon the termination of the business relationship between the BOSI and the PwC member firm.

PwC provided an overview of the facts and circumstances surrounding the business relationship to our audit committee and management, including that the entity involved was a BOSI and not an affiliate of the Company, and other relevant facts. The PwC audit engagement team members did not participate in the PwC member firm's activities and engagements with the BOSI or any entity that is part of the PwC member firm's business relationship with the BOSI, and the business relationship was not quantitatively or qualitatively material to the PwC member firm or the BOSI.

Considering the facts presented, our audit committee and PwC have concluded that the business relationship would not impair PwC's application of objective and impartial judgment on any matters encompassed within the audit engagement performed by PwC for our consolidated financial statements as of and for the fiscal years ended December 31, 2022 and 2021, and the review for the interim periods for the nine months ended September 30, 2023 and 2022, and that a reasonable investor with knowledge of all relevant facts and circumstances would conclude that PwC is capable of remaining objective and impartial with respect to the audit and reviews of the Company's consolidated financial statements.

CHANGES IN INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

On September 24, 2021, KPMG, LLP ("KPMG") was engaged as the independent registered public accounting firm to audit our consolidated financial statements for the fiscal year ended December 31, 2020 in accordance with auditing standards generally accepted in the United States.

During the two fiscal years ended December 31, 2020 and 2019 and the subsequent interim period through September 24, 2021 we did not consult with KPMG on (i) matters that involved the application of accounting principles to a specified transaction either completed or proposed, or the type of audit opinion that might be rendered on our consolidated financial statements, and neither a written report nor oral advice was provided to us that KPMG concluded was an important factor considered by us in reaching a decision as to any accounting, auditing or financial reporting issue, or (ii) any matter that was either the subject of a "disagreement" or a "reportable event" (as defined in Item 304(a)(1)(iv) and Item 304(a)(1)(v) of Regulation S-K and the related instructions, respectively).

On April 28, 2022, our audit committee dismissed KPMG as our independent registered public accounting firm.

KPMG has never issued an audit report on our consolidated financial statements.

During the two fiscal years ended December 31, 2021 and 2020, and the subsequent period through April 28, 2022, (1) there were no disagreements (as that term is used in Item 304(a)(1)(iv) of Regulation S-K and the related instructions) between us and KPMG on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreements, if not resolved to the satisfaction of KPMG, would have caused KPMG to make reference thereto in a report on our financial statements for the year ended December 31, 2020 if a report were to be issued, and (2) there were no "reportable events" as such term is defined in Item 304(a)(1)(v) of Regulation S-K.

We have provided KPMG with a copy of the disclosures set forth under the heading "Changes in Independent Registered Public Accounting Firm" and have requested that KPMG furnish a letter addressed to the SEC stating whether or not KPMG agrees with such statements. A copy of the letter is filed as Exhibit 16.1 to the registration statement of which this prospectus forms a part.

On April 28, 2022, PwC was approved as the independent registered public accounting firm for the fiscal year ended December 31, 2021.

During the two most recent fiscal years ended December 31, 2021 and the subsequent interim period through April 28, 2022 we did not consult with PwC on (i) matters that involved the application of accounting principles to a specified transaction either completed or proposed, or the type of audit opinion that might be rendered on our consolidated financial statements, and neither a written report nor oral advice was provided to us that PwC concluded was an important factor considered by us in reaching a decision as to any accounting, auditing or financial reporting issue, or (ii) any matter that was either the subject of a "disagreement" or a "reportable event" (as defined in Item 304(a)(1)(iv) and Item 304(a)(1)(v) of Regulation S-K and the related instructions, respectively).

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 (File Number 333-) under the Securities Act with respect to the common stock we are offering by this prospectus. This prospectus, which constitutes part of the registration statement, does not contain all of the information included in the registration statement. For further information pertaining to us and our common stock, you should refer to the registration statement and to its exhibits. Whenever we make reference in this prospectus to any of our contracts, agreements or other documents, the references are not necessarily complete, and you should refer to the exhibits attached to the registration statement for copies of the actual contract, agreement or other document.

Upon the completion of the offering, we will be subject to the informational requirements of the Exchange Act and will file annual, quarterly and current reports, proxy statements and other information with the SEC. You can read our SEC filings, including the registration statement, at the SEC's website at www.sec.gov. We also maintain a website at https://www.metagenomi.co and upon completion of the offering, you may access, free of charge, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports, as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our website is not part of, and is not incorporated into, this prospectus.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Index to Consolidated Financial Statements as of December 2021 and 2022 and for the years ended December 31, 2021 and 2022:

Index to Unaudited Condensed Consolidated Financial Statements as of September 30, 2023 and for the nine months ended September 30, 2022 and 2023:

Report of Independent Registered Public Accounting Firm

To the Board of Managers and Members of Metagenomi Technologies, LLC

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Metagenomi Technologies, LLC and its subsidiary (the "Company") as of December 31, 2022 and 2021, and the related consolidated statements of operations and comprehensive loss, of redeemable convertible preferred units and members' deficit, and of cash flows for the years then ended, including the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these consolidated financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP

San Jose, California
August 3, 2023

We have served as the Company's auditor since 2022.

Consolidated Balance Sheets

(in thousands, except units)

	December 31, 2021	December 31, 2022
Assets		
Current assets:		
Cash and cash equivalents	$ 39,296	$ 184,441
Available-for-sale marketable securities	68,858	177,690
Contract assets	—	1,274
Prepaid expenses and other current assets	762	3,494
Total current assets	108,916	366,899
Property and equipment, net	3,862	16,522
Long-term investments	6,417	7,806
Operating lease right-of-use assets	18,028	16,736
Other assets	669	450
Restricted cash	4,100	6,073
Total assets	$141,992	$ 414,486
Liabilities, redeemable convertible preferred units and members' deficit		
Current liabilities:		
Accounts payable	$ 1,354	$ 2,011
Income tax payable	—	1,536
Accrued expenses and other current liabilities	3,531	8,790
Current portion of operating lease liabilities	687	1,515
Collaboration advance	3,559	743
Deferred revenue	16,041	33,942
Total current liabilities	25,172	48,537
Convertible promissory note and accrued interest, net of discount	30,276	—
Non-current portion of operating lease liabilities	17,965	17,056
Collaboration advance, non-current	912	—
Deferred revenue, non-current	23,716	76,185
Other non-current liabilities	—	1,033
Total liabilities	98,041	142,811
Commitments and contingencies (Note 10)		
Redeemable convertible preferred units: 19,650,632 and 41,813,375 units authorized as of December 31, 2021 and 2022, respectively; 19,650,632 and 41,478,621 units issued and outstanding as of December 31, 2021 and 2022, respectively. Liquidation preference $76,669 and $347,335 as of December 31, 2021 and 2022, respectively	76,495	346,103
Members' deficit:		
Common units: 32,000,000 and 66,000,000 units authorized as of December 31, 2021 and 2022, respectively; 5,947,500 units issued and outstanding as of December 31, 2021 and 2022	26	26
Profits interests: 6,020,644 and 14,604,165 units authorized as of December 31, 2021 and 2022, respectively; 5,783,758 and 7,516,073 units issued and outstanding as of December 31, 2021 and 2022, respectively	547	2,509
Accumulated other comprehensive loss	(21)	(274)
Accumulated deficit	(33,096)	(76,689)
Total members' deficit	(32,544)	(74,428)
Total liabilities, redeemable convertible preferred units and members' deficit	$141,992	$ 414,486

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statements of Operations and Comprehensive Loss

(in thousands, except units and per unit data)

	Years ended December 31,	
	2021	2022
Collaboration revenue	$ 243	$ 17,200
Operating expenses:		
Research and development	14,478	43,139
General and administrative	9,712	18,701
Total operating expenses	24,190	61,840
Loss from operations	(23,947)	(44,640)
Other income (expense)		
Interest expense	(302)	(98)
Interest income	43	3,419
Change in fair value of long-term investments	2,760	94
Other income, net	4	201
Total other income	2,505	3,616
Net loss before provision for income taxes	(21,442)	(41,024)
Provision for income taxes	—	(2,569)
Net loss	$ (21,442)	$ (43,593)
Other comprehensive loss:		
Unrealized loss on available-for-sale marketable securities, net	(21)	(253)
Other comprehensive loss	$ (21,463)	$ (43,846)
Net loss per unit attributable to common unitholders, basic and diluted	$ (3.77)	$ (7.34)
Weighted average common units outstanding, basic and diluted	5,691,431	5,938,654

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statements of Redeemable Convertible Preferred Units and Members' Deficit

(in thousands, except units)

	Redeemable Convertible Preferred Units		Common Units		Profits Interests		Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Members' Deficit
	Units	Amount	Units	Amount	Units	Amount			
BALANCE—January 1, 2021	18,069,695	$ 66,547	5,947,500	$ 26	2,302,239	$ 172	$ -	$ (11,654)	$ (11,456)
Issuance of Series A-5 redeemable convertible preferred units, net of issuance costs of $52	1,580,937	9,948	-	-	-	-	-	-	-
Issuance of profits interests	–	–	–	–	3,550,854	–	–	–	–
Cancellation and forfeiture of profits interests	–	–	–	–	(69,335)	–	–	–	–
Unit-based compensation expense	–	–	–	–	–	375	–	–	375
Other comprehensive loss	–	–	–	–	–	–	(21)	–	(21)
Net loss	–	–	–	–	–	–	–	(21,442)	(21,442)
BALANCE—December 31, 2021	19,650,632	$ 76,495	5,947,500	$ 26	5,783,758	$ 547	$ (21)	$ (33,096)	$ (32,544)
Issuance of Series B redeemable convertible preferred units for cash, net of issuance costs of $697	12,446,876	144,304	–	–	–	–	–	–	–
Issuance of Series B redeemable convertible preferred units upon conversion of convertible note and accrued interest	2,607,387	30,374	–	–	–	–	–	–	–
Issuance of Series B-1 redeemable convertible preferred units, net of issuance costs of $361	6,773,726	94,930	–	–	–	–	–	–	–
Issuance of profits interests	–	–	–	–	2,763,356	–	–	–	–
Cancellation and forfeiture of profits interests	–	–	–	–	(1,031,041)	–	–	–	–
Unit-based compensation expense	–	–	–	–	–	1,962	–	–	1,962
Other comprehensive loss	–	–	–	–	–	–	(253)	–	(253)
Net loss	–	–	–	–	–	–	–	(43,593)	(43,593)
BALANCE—December 31, 2022	41,478,621	$346,103	5,947,500	$ 26	7,516,073	$ 2,509	$ (274)	$ (76,689)	$ (74,428)

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statements of Cash Flows

(in thousands)

	Years ended December 31,	
	2021	2022
Cash flows from operating activities		
Net loss	$ (21,442)	$ (43,593)
Adjustments to reconcile net loss to net cash provided by operating activities		
Unit-based compensation expense	375	1,962
Depreciation and amortization	387	1,733
Loss on fixed assets write-off	—	282
Non-cash lease expense	937	1,292
Amortization of premiums and discounts on available-for-sale marketable securities, net	203	(1,129)
Amortization of non-cash collaboration revenue	—	(314)
Non-cash interest expense	302	98
Change in fair value of long-term investments	(2,760)	(94)
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(502)	(2,465)
Contract assets	—	(1,274)
Other assets	68	(173)
Accounts payable	695	721
Income tax payable	—	1,536
Deferred revenue and collaboration advance	44,228	65,661
Accrued expenses and other current liabilities	1,854	4,529
Operating lease liabilities	(88)	(81)
Other non-current liabilities	—	1,033
Net cash provided by operating activities	24,257	29,724
Cash flows from investing activities		
Purchases of property and equipment	(2,903)	(13,977)
Purchases of available-for-sale marketable securities	(69,258)	(214,850)
Purchases of long-term investments	(2,155)	—
Maturities and sales of available-for-sale marketable securities	—	106,627
Net cash used in investing activities	(74,316)	(122,200)
Cash flows from financing activities		
Proceeds from issuance of redeemable convertible preferred units, net of issuance costs	9,948	239,594
Proceeds from issuance of convertible promissory note, net of issuance costs	29,974	—
Net cash provided by financing activities	39,922	239,594
Net change in cash, cash equivalents and restricted cash	(10,137)	147,118
Cash, cash equivalents and restricted cash at the beginning of the period	53,533	43,396
Cash, cash equivalents and restricted cash at the end of the period	$ 43,396	$ 190,514
Reconciliation of cash, cash equivalents and restricted cash		
Cash and cash equivalents	$ 39,296	$ 184,441
Restricted cash	4,100	6,073
Cash, cash equivalents and restricted cash at the end of the period	$ 43,396	$ 190,514

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statements of Cash Flows (Continued)

(in thousands)

	Years ended December 31,	
	2021	2022
Supplemental cash flow information		
Issuance of Series B redeemable convertible preferred units upon conversion of convertible promissory note and accrued interest	$ —	$ 30,374
Common shares of Affini-T received for collaboration revenue	$ —	$ 1,295
Operating lease right-of-use assets obtained in exchange for new lease liabilities	$ 18,659	$ —
Non-cash expense related to a lease modification	$ 2,059	$ —
Deferred finance issuance costs included in other assets	$ 143	$ —
Unpaid finance issuance costs included in accounts payable and accrued expenses	$ —	$ 360
Purchases of property and equipment included in accounts payable and accrued expenses	$ 725	$ 1,247

The accompanying notes are an integral part of these consolidated financial statements.

Notes to the consolidated financial statements

1. Description of business, organization and liquidity

Organization and business

Metagenomi Technologies, LLC ("Metagenomi"), together with its wholly owned subsidiary Metagenomi, Inc. ("Metagenomi Inc.") (together, the "Company") is a gene editing biotechnology company developing therapeutics by leveraging a toolbox of next-generation gene editing systems to accurately edit DNA.

Formation and group reorganizations

Metagenomi.co was incorporated in September 2016 in the State of Delaware and is headquartered in Emeryville, California. In September 2018, Metagenomi.co formed a subsidiary, Metagenomi Technologies, LLC, as its sole member. In November 2018, the two companies completed a reorganization where Metagenomi Technologies, LLC became the parent of Metagemoni.co. The reorganization was a transaction of entities under common control and did not change the group.

In December 2018, Metagenomi formed another wholly owned subsidiary, Metagenomi IP Technologies, LLC. Metagenomi IP Technologies, LLC did not have any operations except for the initial transfer of IP from Metagenomi.co and an ongoing license of its technology to Metagenomi.co. Key activities of Metagenomi were raising capital to support operations of Metagenomi.co.

In April 2020, Metagenomi.co changed its name to Metagenomi, Inc.

In December 2021, the group completed another tax-free reorganization, whereby Metagenomi IP Technologies, LLC merged with and into Metagenomi, Inc. As of December 31, 2022, the group consisted of two entities: Metagenomi Technologies, LLC and its subsidiary, Metagenomi Inc. Both 2018 and 2021 reorganizations were accounted as transactions under common control at historical carrying values.

Liquidity and going concern

The Company has incurred significant losses from operations since its inception. During the years ended December 31, 2021 and 2022, the Company incurred net losses of $21.4 million and $43.6 million, respectively. As of December 31, 2022, the Company had an accumulated deficit of $76.7 million.

The Company has historically financed its operations primarily through issuance of redeemable convertible preferred units, convertible promissory notes and its collaboration agreements with Moderna, Affini-T and Ionis (see Note 7). The Company expects to continue to incur substantial losses, and its ability to achieve and sustain profitability will depend on the successful development, approval, and commercialization of any product candidates it may develop, and on the achievement of sufficient revenue to support its cost structure. The Company may never achieve profitability and, unless and until it does, it will need to continue to raise additional capital. Management expects that existing cash and cash equivalents and available-for-sale marketable securities of $362.1 million as of December 31, 2022, will be sufficient to fund its current operating plan for at least the next 12 months from the date of issuance of these consolidated financial statements.

2. Summary of significant accounting policies

Basis of presentation

These consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"). The accompanying consolidated financial statements

include the accounts of Metagenomi and Metagenomi Inc., a wholly owned subsidiary. All intercompany balances and transactions have been eliminated in consolidation.

Any reference in these notes to applicable guidance is meant to refer to the authoritative GAAP as found in the Accounting Standards Codification ("ASC") and Accounting Standards Updates ("ASU") of the Financial Accounting Standards Board ("FASB").

Use of estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of expenses during the reporting period. On an ongoing basis, the Company evaluates estimates and assumptions, including but not limited to those related to revenue recognition under its collaboration agreements, the fair value of its common and redeemable convertible preferred units, the fair value of derivative liabilities, unit-based compensation expense, accruals for research and development expenses, the fair value of long-term investments and convertible promissory notes in private companies, the valuation of deferred tax assets, and uncertain income tax positions. Management bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ materially from those estimates.

Segment and geographical information

The Company operates and manages its business as one reportable and operating segment, which is the business of developing next generation gene-editing technologies and therapies. The chief executive officer, who is the chief operating decision maker, reviews financial information on an aggregate basis for purposes of allocating resources and evaluating financial performance. All of the Company's long-lived assets are located in the United States.

Risks and uncertainties

The Company is subject to certain risks and uncertainties, including, but not limited to, changes in any of the following areas that the Company believes could have a material adverse effect on the future financial position or results of operations: the Company's ability to advance the development of its next generation gene-editing platform, timing and ability to advance any product candidates it may develop into and through pre-clinical and clinical development; costs and timelines associated with the manufacturing of clinical supplies of any product candidates the Company may develop; regulatory approval, market acceptance of, and reimbursement for any product candidates the Company may develop; performance of third-party vendors; competition from pharmaceutical or other gene-editing companies with greater financial resources or expertise; protection of intellectual property; litigation or claims against the Company based on intellectual property or other factors; and its ability to attract and retain employees necessary to support its growth.

The Company's business and operations may be affected by worldwide economic conditions, which may continue to be impacted by global macroeconomic challenges such as the effects of the ongoing geopolitical conflicts in Ukraine, tensions in U.S.-China relations, the COVID-19 pandemic, uncertainty in the markets, including disruptions in the banking industry, and inflationary trends. Fiscal year 2022 was marked by significant market uncertainty, increasing inflationary pressures. These market dynamics may continue into 2023 and these and similar adverse market conditions may negatively impact the Company's operations and financial position.

Cash and cash equivalents

Cash equivalents are defined as short-term, highly liquid investments with original maturities of 90 days or less at the date of purchase. As of December 31, 2021 and 2022, the Company's cash and cash equivalents consisted of deposit accounts and investments in money market funds.

Marketable securities

Investments with original maturities of greater than 90 days are classified as available-for-sale marketable securities on the consolidated balance sheets and consist primarily of U.S. Treasury, corporate debt obligations, commercial paper, government agency obligations and asset-backed securities. As the Company's entire investment portfolio is considered available for use in current operations, the Company classifies all investments as available-for-sale and as current assets, even though the stated maturity may be more than one year from the current consolidated balance sheets date. Available-for-sale securities are carried at fair value, with unrealized gains and losses reported in accumulated other comprehensive loss, which is a separate component of members' deficit in the consolidated balance sheets.

The amortized cost of securities is adjusted for amortization of premiums and accretion of discounts to maturity, which are both recorded to interest income in the consolidated statements of operations and comprehensive loss.

Changes in the fair value of available-for-sale securities are reflected within unrealized loss on available-for-sale marketable securities, net in the consolidated statements of operations and comprehensive loss. Realized gains and losses on the sale of securities are determined by specific identification of each security's cost basis. The Company regularly reviews its investment portfolio to determine if any security is impaired, which would require it to record an allowance for credit losses or an impairment charge in the period any such determination is made. In making this judgment, the Company evaluates, among other things, the extent to which the fair value of a security is less than its amortized cost, its intent to sell or whether it is more likely than not that the Company will be required to sell the security before recovery of its amortized cost basis, the financial condition of the issuer and any changes thereto, and, as necessary, the portion of a decline in fair value that is credit-related. This assessment could change in the future due to new developments or changes in assumptions related to any particular security. Realized gains and losses, allowances for credit losses and impairments on available-for-sale securities, if any, are recorded to interest expense, net in the consolidated statements of operations and comprehensive loss.

Long-term investments

The Company determines at the inception of each arrangement whether an investment or other interest is considered a variable interest entity ("VIE"). If the investment or other interest is determined to be a VIE, the Company evaluates whether it is considered the primary beneficiary. The primary beneficiary of a VIE is the party that meets both of the following criteria: (i) has the power to direct the activities that most significantly impact the VIE's economic performance; and (ii) has the obligation to absorb losses or the right to receive benefits from the VIE. For investments in VIEs in which the Company is considered the primary beneficiary, the assets, liabilities and results of operations of the VIE are included in the Company's consolidated financial statements. As of December 31, 2021 and 2022, there were no VIEs for which the Company was the primary beneficiary.

If the Company concludes that it exercises significant influence over an investees' operations, it may account for its investment either using the equity method of accounting or fair value method. The election to account for an investment at fair value is irrevocable unless an event occurs creating a new election date. If the

Company does not have a significant influence, it accounts for its investment at fair value and may elect to account for an equity security without a readily determinable fair value using the measurement alternative method. The measurement alternative method allows the Company to measure the equity investment at its cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. Changes in fair value and impairment losses are recognized as other income (expenses) in the consolidated statements of operations and comprehensive loss.

Restricted cash

Restricted cash of $4.1 million and $6.1 million as of December 31, 2021 and 2022, respectively, represents security deposits in the form of a letter of credit issued in connection with the Company's leases (see Note 10).

Concentration of credit risk

Cash and cash equivalents, marketable securities and investments in convertible promissory notes are financial instruments that potentially subject the Company to concentrations of credit risk. As of December 31, 2021 and 2022, cash consists of cash deposited with one financial institution, Silicon Valley Bank ("SVB"), and account balances exceed federally insured limits.

On March 10, 2023, SVB was closed by the California Department of Financial Protection and Innovation, which appointed the Federal Deposit Insurance Corporation ("FDIC") as receiver. On March 12, 2023 the FDIC transferred all deposits, both insured and uninsured, and substantially all assets from the former SVB to a newly created, full-service FDIC-operated "bridge bank", Silicon Valley Bridge Bank, N.A. ("SVBB") and the FDIC, Treasury Department, and Federal Reserve announced that all deposits will be fully protected, whether or not they had been insured by the FDIC. On March 27, 2023, First-Citizens Bank & Trust Company assumed all of SVBB's customer deposits and certain other liabilities and acquired substantially all of SVBB's loans and certain other assets from the FDIC. As of the date of the issuance of these consolidated financial statements, the Company has full access to and control over all its cash, cash equivalents and available-for-sale marketable securities.

The Company also has investments in money market funds, U.S. Treasuries, corporate debt obligations, commercial paper, government agency obligations and asset-backed securities, which can be subject to certain credit risks. The Company mitigates the risks by investing in high-grade instruments, limiting its exposure to any one issuer and monitoring the ongoing creditworthiness of the financial institutions and issuers. The Company has not experienced any losses on its financial instruments.

Concentration of collaboration revenue and contract assets

The following table summarizes the percentages of collaboration revenues and of contract assets from each of the Company's customers that individually accounted for 10% or more of its collaboration revenues:

	Collaboration revenue		Contract assets
	Year ended December 31,		December 31,
	2021	2022	2022
Customer A	100%	84%	—
Customer B	—	15%	100%
	100%	99%	100%

The Company reviews its contract assets for impairment. No contract asset impairment was recorded as of December 31, 2022.

Fair value measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The carrying amounts of cash equivalents, prepaid expenses and other current assets, accounts payable, accrued expenses and other liabilities, approximate fair value due to their short-term maturities. Financial instruments, such as money market funds, marketable securities and certain equity and long-term investments are measured at fair value at each reporting date (see Note 3).

Deferred finance issuance costs

Deferred finance issuance costs, consisting of legal fees relating to in-process equity financings or offerings are capitalized. The deferred finance issuance costs will be offset against offering proceeds upon the completion of the financing or the offering. In the event the financing or the offering is terminated or delayed, deferred finance issuance costs will be expensed immediately as a charge to general and administrative expenses in the consolidated statements of operations and comprehensive loss. As of December 31, 2021, the Company capitalized and recorded $0.1 million in issuance costs related to its Series B preferred unit financing in other assets in the consolidated balance sheets, which closed in January 2022. There were no deferred finance issuance costs as of December 31, 2022.

Property and equipment, net

Property and equipment are recorded at cost, less accumulated depreciation and amortization. Depreciation is computed using the straight-line method over the estimated useful lives of the assets, generally three to five years, and leasehold improvements are amortized over the shorter of the lease term or the estimated useful life of the asset. Repairs and maintenance expenditures, which are not considered improvements and do not extend the useful life of property and equipment, are expensed as incurred. When assets are retired or otherwise disposed of, the cost and related accumulated depreciation and amortization are removed from the consolidated balance sheets and the resulting gain or loss is reflected in the consolidated statements of operations and comprehensive loss in the period realized.

Leases

The Company determines whether an arrangement is or contains a lease at the inception of the arrangement and whether such a lease should be classified as a financing lease or operating lease at the commencement date of the lease. Leases with a term greater than one year are recognized on the consolidated balance sheets as operating right-of-use asset (“ROU asset”) and operating lease liabilities. We elected not to recognize the right-of-use assets and lease liabilities for leases with lease terms of one year or less (short-term leases). Lease liabilities and their corresponding ROU assets are recorded based on the present value of lease payments over the lease term. The Company considers the lease term to be the noncancelable period that it has the right to use the underlying asset, together with any periods where it is reasonably certain it will exercise an option to extend (or not terminate) the lease. As the interest rate implicit in the Company’s lease contracts is not readily determinable, the Company utilizes its incremental borrowing rate (“IBR”) based on the information available at the commencement date to determine the present value of lease payments.

Rent expense for operating leases is recognized on a straight-line basis over the lease term. The Company has elected to not separate lease and non-lease components for its real estate leases and instead accounts for each

separate lease component and the non-lease components associated with that lease component as a single lease component. Variable lease payments are recognized as incurred.

As of December 31, 2021 and 2022, the Company had no finance leases.

Impairment of long-lived assets

The Company reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability is measured by comparing the carrying amount to the future undiscounted net cash flows which the assets are expected to generate. If such assets are considered to be impaired, the impairment to be recognized is measured as the amount by which the carrying amount of the assets exceeds the projected discounted future net cash flows generated by the assets. There have been no such impairments of long-lived assets in the years ended December 31, 2021 and 2022.

Redeemable convertible preferred units

The Company records redeemable convertible preferred units at their respective fair values on the dates of issuance, net of issuance costs. The redeemable convertible preferred units are recorded outside of permanent equity because while it is not mandatory, redemption is contingent upon the occurrence of certain events considered not solely within the Company's control. The Company has not adjusted the carrying values of the redeemable convertible preferred units to the liquidation preferences of such units because it is uncertain whether or when a deemed liquidation event would occur that would obligate the Company to pay the liquidation preferences to holders of redeemable convertible preferred units. Subsequent adjustments to the carrying values to the liquidation preferences will be made only when it becomes probable that such a deemed liquidation event will occur.

Collaboration arrangements and revenue recognition

At the inception of an agreement, the Company evaluates if an agreement is a collaborative arrangement within the scope of ASC 808, *Collaborative Arrangements* ("ASC 808"). For collaborative arrangements that fall within the scope of ASC 808, the Company first determines which elements of the collaboration are deemed to be a performance obligation with a customer within the scope of ASC Topic 606, *Revenue from Contracts with Customers* ("ASC 606"). For elements of collaboration arrangements that are accounted for pursuant to ASC 808 and are not subject to the guidance in ASC 606, the Company applies the revenue recognition model under ASC 606 or other guidance, as deemed appropriate.

The Company re-evaluates whether the license agreement continues to be a collaborative arrangement, or whether the license agreement becomes a collaborative arrangement, whenever there is a change in either the roles of the participants in the arrangement or the participants' exposure to significant risks and rewards dependent on the ultimate commercial success of the endeavor.

Under ASC 606, the Company recognizes revenue when the Company's customer obtains control of promised goods or services, in an amount that reflects the consideration which the Company expects to receive in exchange for those goods and services. To determine revenue recognition for arrangements within the scope of ASC 606, the Company performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price, including the constraint on variable consideration; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when or as the Company satisfies a performance obligation.

The Company's revenue is primarily derived through its license, research, development and option agreements. These agreements may include the following types of promised goods or services: (i) grants of licenses,

(ii) performance of research and development services, and (iii) participation on joint research and/or development committees. They also may include options to obtain licenses to the Company's intellectual property or to extend the term of the research activities. Payments to the Company under these arrangements typically include one or more of the following: non-refundable upfront payments; reimbursement for research services; research, development or regulatory milestone payments; profit-sharing arrangements; and royalty and commercial sales milestone payments. The event-based milestone payments, royalties and cost reimbursements represent variable consideration. The Company evaluates the probability that the event-based milestones will be achieved and estimates the amount to be included in the transaction price using the most likely amount method. The Company includes cost reimbursement in the transaction price using the expected value method.

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account in ASC 606. The Company allocates the total transaction price, including variable consideration that is not constrained, to each performance obligation based on the estimated standalone selling price and recognizes revenue when, or as, the performance obligation is satisfied. Amounts of variable consideration are included in the transaction price to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur. At the end of each reporting period, the Company re-evaluates the estimated variable consideration included in the transaction price and any related constraint, and if necessary, adjusts its estimate of the overall transaction price.

The Company's collaboration and license agreements include contingent payments related to sales-based milestones and royalties. Sales-based milestones and royalties are typically payable when annual sales of a covered product reach specified levels and sales occur. When intellectual property license is determined to be a predominant promise in the arrangement, sales-based milestones and royalties are recognized at the later of when the associated performance obligation has been satisfied or when the sales occur. Unlike other contingency payments, such as regulatory milestones, sales-based milestones and royalties are not included in the transaction price based on estimates at the inception of the contract, but rather, are included when the sales or usage occur.

In cases when upfront payment contains a material right for the optional services the Company may provide in the future, the material right is treated as a separate performance obligation. The value allocated to such material right is deferred and recognized as revenue when the performance obligation is satisfied, and the optional services are provided, or when the right expires.

Contract assets and contract liabilities

A contract asset is a right to consideration in exchange for goods or services that the Company has transferred to a customer when that right is conditional and is not just subject to the passage of time. A receivable is recorded on the consolidated balance sheets when the Company has unconditional rights to consideration. As of December 31, 2022, the contract asset balance of $1.3 million related to revenue recognized and unbilled under the Affini-T Agreement (Note 7).

A contract liability is an obligation to transfer goods or services for which the Company has received consideration, or for which an amount of consideration is due from the customer. Contract liabilities consist of deferred revenue and relate to amounts invoiced to, or advance consideration received from, licensees that precede the Company's satisfaction of the associated performance obligations. The Company's deferred revenue primarily results from upfront payments received relating to the performance obligations that are satisfied over time under the Company's revenue arrangements (Note 7).

The Company's contract balances are reported in a net contract asset or liability position on a contract-by-contract basis at the end of each reporting period. Changes in the contract assets and the contract

liabilities balances during the period are the result of the issuance of invoices, receipts of non-refundable upfront payments and recognition of deferred revenues.

Research and development expenses

Research and development costs are expensed as incurred. Research and development costs include salaries, unit-based compensation, and benefits for employees performing research and development activities, an allocation of facility and overhead expenses, expenses incurred under agreements with consultants, third-party organizations and vendors that conduct research and pre-clinical activities, regulatory support activities, manufacturing process development activities and provide supplies.

Research and development expenses accruals are estimated based on the level of services performed, progress of the work orders, including the phase or completion of events, and contracted costs. The estimated costs of research and development services provided, but not yet invoiced, are included in accrued expenses and other current liabilities in the consolidated balance sheets. If the actual timing of the performance of services or the level of effort varies from the original estimates, the Company will adjust the accrual accordingly. To date, there have been no material differences between estimates of such expenses and the amounts actually incurred.

Nonrefundable advance payments for goods or services to be received in the future for use in research and development activities are capitalized and recorded in prepaid expenses and other current assets, and then expensed as the related goods are delivered or the services are performed.

Patent costs

All patent-related costs incurred in connection with filing and prosecuting patent applications are expensed as incurred due to the uncertainty of the recovery of the expenditure. Amounts incurred are classified as general and administrative expenses in the consolidated statements of operations and comprehensive loss.

Unit-based compensation expense

The Company's unit-based equity awards include issuance of profits interests that are granted to employees and consultants under the 2019 Equity Incentive Plan. Profits interests usually vest over four years and are a separate class of equity with defined rights within the LLC Agreement. A profits interest is an interest in the increase in the value of the Company over the threshold amount, as determined at the time of grant on a per unit basis. The holder, therefore, has the right to participate in distributions of profits only in excess of the threshold amount. The threshold amount is based on the valuation of the common units on or around the grant date.

The Company accounts for profits interests granted in accordance with ASC 718, *Compensation-Stock Compensation* (ASC 718). In accordance with ASC 718, compensation expense is measured at the estimated fair value of the profits interest using the Black-Scholes option-pricing model and is included as compensation expense over the vesting period during which an employee or a consultant provides service in exchange for the award. Unit-based compensation expense is recognized over the awards' vesting period on a straight-line basis and recorded as either research and development or general and administrative expenses in the consolidated statements of operations and comprehensive loss based on the function to which the related services are provided. Forfeitures are accounted for as they occur.

Income taxes

Metagenomi is taxed under the provisions of Sub chapter K- Partners and Partnerships of the Internal Revenue Code. Under those provisions, Metagenomi does not pay federal or state corporate income taxes on its taxable income. Instead, each member includes net operating income or loss for Metagenomi on its individual return.

Metagenomi Inc. uses the liability method to account for income taxes. Under this method, deferred tax assets and liabilities are determined based on differences between the financial statement carrying amounts of existing assets and liabilities and their tax bases. Deferred tax assets and liabilities are measured using enacted tax rates applied to taxable income in the years in which those temporary differences are expected to be recovered or settled. A valuation allowance is established when necessary to reduce deferred tax assets to the amount expected to be realized.

Metagenomi Inc. assesses the likelihood of deferred tax assets being realized. It provides a valuation allowance when it is more likely than not that some portion or all of a deferred tax asset will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which the temporary differences representing net future deductible amounts become deductible.

Tax benefits related to uncertain tax positions are recognized when it is more likely than not that a tax position will be sustained during an audit. Tax positions that meet the more-likely-than-not threshold are measured at the largest amount of tax benefit that is greater than 50% likely of being realized upon settlement with the taxing authority. Interest and penalties related to unrecognized tax benefits are included within the provision for income tax.

Net loss per unit

The Company calculates basic and diluted net loss per unit in conformity with the two-class method required for participating securities. Under the two-class method, basic net loss per unit is computed by dividing the net loss by the weighted average number of common units outstanding during the period, without consideration of potentially dilutive securities. Diluted net loss per unit is computed by dividing the net loss by the sum of the weighted average number of common units outstanding during the period plus the dilutive effects of potentially dilutive securities outstanding during the period. Potentially dilutive securities include incentive units, unvested restricted common units and redeemable convertible preferred units. The dilutive effect of incentive units and unvested restricted common units is computed using the treasury stock method and the dilutive effect of redeemable convertible preferred units is calculated using the if-converted method. For all periods presented, diluted net loss per unit is the same as basic net loss per unit since the effect of including potential dilutive securities is anti-dilutive and incentive units' participation thresholds were not met.

Comprehensive loss

Comprehensive income (loss) is defined as a change in equity of a business enterprise during a period resulting from transactions from non-owner sources. The Company's other comprehensive income (loss) is comprised solely of unrealized gains (losses) on available-for-sale marketable securities. The Company has not recorded any reclassifications from other comprehensive income (loss) to net loss during the periods presented.

Recently issued accounting pronouncements

The Company noted no recently issued accounting pronouncements that will impact its consolidated financial statements and were not adopted by the Company. No new accounting pronouncements were adopted during the year ended December 31, 2022.

3. Fair value measurements

Assets and liabilities recorded at fair value on a recurring basis in the consolidated balance sheets, are categorized based upon the level of judgment associated with inputs used to measure their fair values. The accounting guidance for fair value provides a framework for measuring fair value and requires certain

disclosures about how fair value is determined. The accounting guidance establishes a three-level valuation hierarchy that prioritizes the inputs to valuation techniques used to measure fair value based upon whether such inputs are observable or unobservable. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect market assumptions made by the reporting entity. The three-level hierarchy for the inputs to valuation techniques is briefly summarized as follows:

Level 1 — Inputs are unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date;

Level 2 — Inputs are observable, unadjusted quoted prices in active markets for similar assets or liabilities, unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the related assets or liabilities; and

Level 3 **—** Unobservable inputs that are significant to the measurement of the fair value of the assets or liabilities that are supported by little or no market data.

Assets and liabilities measured at fair value are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. An assessment of the significance of a particular input to the fair value measurement in its entirety requires management to make judgments and consider factors specific to the asset or liability. Changes in the ability to observe valuation inputs may result in a reclassification of levels of certain securities within the fair value hierarchy. The Company recognizes transfers into and out of levels within the fair value hierarchy in the period in which the actual event or change in circumstances that caused the transfer occurs.

The Company's financial instruments measured at fair value on a recurring basis consist of Level 1, Level 2, and Level 3 financial instruments. Usually, marketable securities are considered Level 2 when their fair values are determined using inputs that are observable in the market or can be derived principally from or corroborated by observable market data such as pricing for similar securities, recently executed transactions, cash flow models with yield curves, and benchmark securities. In addition, Level 2 financial instruments are valued using comparisons to like-kind financial instruments and models that use readily observable market data as their basis. U.S. Government bonds, corporate debt obligations, commercial paper, government agency obligations and asset-backed securities are valued primarily using market prices of comparable securities, bid/ask quotes, interest rate yields and prepayment spreads and are included in Level 2.

Financial assets and liabilities are considered Level 3 when their fair values are determined using pricing models, discounted cash flow methodologies, or similar techniques, and at least one significant model assumption or input is unobservable. The Company's investments in a convertible promissory note, preferred stock shares and restricted common stock of Affini-T Therapeutics Inc. ("Affini-T") (see Note 5) are Level 3 financial assets.

The following table summarizes the estimated fair value of the financial instruments that were measured at fair value on a recurring basis by level within the fair value hierarchy as of December 31, 2021 (in thousands):

	December 31, 2021			
	Total	Level 1	Level 2	Level 3
Assets:				
Money market funds (included in cash and cash equivalents)	$ 34,940	$34,940	$ —	$ —
U.S. Treasury bills	2,989	2,989	—	—
Government agency obligations	3,028	—	3,028	—
Corporate debt obligations	20,070	—	20,070	—
Commercial paper	29,719	—	29,719	—
Asset-backed securities	13,052	—	13,052	—
Long-term investments (Note 5)	4,262	—	—	4,262
Total fair value of assets	$108,060	$37,929	$65,869	$4,262

In addition, restricted cash of $4.1 million as of December 31, 2021, collateralized by the Company's cash equivalents, are financial assets measured at fair value and is a Level 1 financial instruments under the fair value hierarchy.

The following table summarizes the estimated fair value of the financial instruments that were measured at fair value on a recurring basis by level within the fair value hierarchy as of December 31, 2022 (in thousands):

	December 31, 2022			
	Total	Level 1	Level 2	Level 3
Assets:				
Money market funds (included in cash and cash equivalents)	$ 182,441	$ 182,441	$ —	$ —
U.S. Treasury bills	14,821	14,821	—	—
U.S. Government bonds	14,651	—	14,651	—
Government agency obligations	22,468	—	22,468	—
Corporate debt obligations	25,900	—	25,900	—
Commercial paper	88,447	—	88,447	—
Asset-backed securities	11,403	—	11,403	—
Long-term investments (Note 5)	5,651	—	—	5,651
Total fair value of assets	$ 365,782	$ 197,262	$ 162,869	$ 5,651

In addition, restricted cash of $6.1 million as of December 31, 2022, collateralized by the Company's cash equivalents, are financial assets measured at fair value and is a Level 1 financial instruments under the fair value hierarchy.

In December 2020, the Company entered into a convertible promissory note agreement and a side letter with Affini-T (see Note 5), and recorded an aggregate $1.5 million investment in Affini-T within long-term investments on the consolidated balance sheet related to (i) the Affini-T Convertible Promissory Note and (ii) shares of Affini-T's common stock. The Company concluded it exercised significant influence over Affini-T, and the Company elected the fair value method to account for the investment in Affini-T. The fair value of

common stock shares was estimated by the Company's management, considering the most recent third-party valuation, which was based on an option-pricing model and Affini-T's most recent round of financing.

During the year ended December 31, 2021, the Company recognized an aggregate $2.8 million change in fair value of its investment in Affini-T within the change in fair value of long-term investments in the consolidated statement of operations and comprehensive loss consisting of a $2.5 million change in fair value of the Affini-T Convertible Promissory Note and a $0.3 million change in fair value of the shares of Affini-T common stock. As of December 31, 2021, the aggregate fair value of the Company's investment in Affini-T was $4.3 million, of which $4.0 million related to the Affini-T Convertible Promissory Note and $0.3 million related to the shares of Affini-T common stock.

In March 2022, the Company's investment in the Affini-T Convertible Promissory Note was converted into shares of convertible preferred stock, resulting in no convertible note outstanding as of December 31, 2022 (see Note 5). The fair value of the convertible preferred stock shares was based on cash paid per share by third party investors. During the year ended December 31, 2022, the Company recognized a change in fair value of the Affini-T Convertible Promissory Note of $0.1 million within the change in fair value of long-term investments in the consolidated statement of operations and comprehensive loss. There was no change in the fair value of the shares of Affini-T common stock during the year ended December 31, 2022.

As of December 31, 2021, the fair value of the Affini-T Convertible Promissory Note was estimated using the fair value of preferred stock using Affini-T's recent valuation and future payments discounted at a rate of 6%. As of the date of the conversion, the fair value was estimated as $4.1 million, which was the fair value of the convertible preferred stock issued upon the conversion and as of December 31, 2022.

There were no transfers between Level 1 and Level 2 categories in the years ended December 31, 2021 and 2022. As of December 31, 2021 and 2022, the Company's investments in Affini-T were accounted as Level 3 investments and recorded at fair value.

4. Available-for-sale marketable securities

The following table summarizes the amortized cost, unrealized gains (losses) and estimated fair value of the available-for-sale marketable securities as of December 31, 2021 (in thousands):

	Amortized cost	Unrealized gains	Unrealized losses	Estimated fair value
Money market funds	$ 34,940	$ —	$ —	$ 34,940
U.S. Treasury obligations	2,989	—	—	2,989
Government agency obligations	3,031	—	(3)	3,028
Corporate debt obligations	20,083	—	(13)	20,070
Commercial paper	29,719	—	—	29,719
Asset-backed securities	13,057	—	(5)	13,052
Total	103,819	—	(21)	103,798
Less: amounts classified as cash equivalents	(34,940)	—	—	(34,940)
Total available-for-sale marketable securities	$ 68,879	$ —	$ (21)	$ 68,858

The following table summarizes the amortized cost, unrealized gains (losses) and estimated fair value of the available-for-sale marketable securities as of December 31, 2022 (in thousands):

	Amortized cost	Unrealized gains	Unrealized losses	Estimated fair value
Money market funds	$ 182,441	$ —	$ —	$ 182,441
U.S. Treasury bills	14,818	3	—	14,821
U.S. Government bonds	14,720	—	(69)	14,651
Government agency obligations	22,431	41	(4)	22,468
Corporate debt obligations	26,041	10	(151)	25,900
Commercial paper	88,447	—	—	88,447
Asset-backed securities	11,508	—	(105)	11,403
Total	360,406	54	(329)	360,131
Less: amounts classified as cash equivalents	(182,441)	—	—	(182,441)
Total available-for-sale marketable securities	$ 177,965	$ 54	$ (329)	$ 177,690

As of December 31, 2021 and 2022, no significant facts or circumstances were present to indicate a deterioration in the creditworthiness of the issuers of the available-for-sale securities, and the Company has no requirement or intention to sell these securities before maturity or recovery of their amortized cost basis. The Company considered the current and expected future economic and market conditions and determined that its investments were not significantly impacted. For all securities with a fair value less than its amortized cost basis, the Company determined the decline in fair value below amortized cost basis to be immaterial and non-credit related, and therefore no allowance for losses has been recorded. During the years ended December 31, 2021 and 2022, the Company did not recognize any impairment losses on its investments.

The Company's policy is to exclude the applicable accrued interest from both the fair value and the amortized cost basis of its available-for-sale securities for purposes of identifying and measuring an impairment. The Company presents accrued interest receivable related to the available-for-sale securities in prepaid expenses and other current assets, separate from available-for-sale marketable securities in the consolidated balance sheets. As of December 31, 2021 and 2022, accrued interest receivable was $0.2 million and $0.3 million, respectively. The Company's accounting policy is to not measure an allowance for credit losses for accrued interest receivables and to write-off any uncollectible accrued interest receivable as a reversal of interest income in a timely manner, which it considers to be in the period in which the Company determines the accrued interest will not be collected. The Company has not written off any accrued interest receivables for the years ended December 31, 2021 and 2022.

The amortized cost and fair value of available-for-sale marketable securities by contractual maturity were as follows as of December 31, 2021 (in thousands):

	Amortized cost	Estimated fair value
Maturing within one year	$ 67,318	$ 67,298
Maturing in one to five years	1,561	1,560
Total available-for-sale marketable securities	$ 68,879	$ 68,858

The amortized cost and fair value of available-for-sale marketable securities by contractual maturity were as follows as of December 31, 2022 (in thousands):

	Amortized cost	Estimated fair value
Maturing within one year	$ 163,259	$ 163,030
Maturing in one to five years	14,706	14,660
Total available-for-sale marketable securities	$ 177,965	$ 177,690

5. Long-term investments

Affini-T investment

In December 2020, the Company entered into a convertible promissory note agreement and a side letter with Affini-T, a private biotechnology company. The Company participated with other investors in Affini-T's convertible notes financing and paid cash of $1.5 million as a principal amount of a convertible promissory note with 6% annual interest and maturity in December 2021. The Affini-T Convertible Promissory Note was convertible in Affini-T's next qualifying round of financing at a conversion price equal to the lesser of (i) 85% of the price per share paid by other investors (or 80% if the qualified financing occurs after June 24, 2021) or (ii) the price per share obtained by dividing $30.0 million by the number of shares of common stock of Affini-T outstanding immediately prior to the qualified financing. In accordance with the side letter, the Company was engaged to perform the testing of its gene editing system to knock-in T-cell receptor ("TCR") targets in primary T-cells as selected by Affini-T. As consideration for services, the Company received 1,867,300 shares of restricted common stock of Affini-T, of which 10% of the shares vested on the issuance date and 90% shares were subject to forfeiture if no gene editing licensing agreement was finalized between the Company and Affini-T by October 31, 2021. Effective November 1, 2021, 1,653,570 shares of restricted common stock issued to the Company were forfeited and cancelled as a license agreement was not signed between the parties.

In March 2022, Affini-T closed a qualifying round of financing, and the Affini-T Convertible Promissory Note and accrued interest were converted into 527,035 Series A convertible preferred stock shares of Affini-T. The Company accounted for its investments in the Affini-T Convertible Promissory Note and convertible preferred stock at fair value (see Note 3).

The Company performed a VIE analysis and concluded that it was not a primary beneficiary of Affini-T. The Company concluded that it exercised significant influence over Affini-T until November 2021, when shares of restricted common stock were forfeited and the Company's former chief business officer, who was also the founder and chief executive officer of Affini-T, resigned. The Company accounted for its investment in 213,730 shares of Affini-T common stock at fair value of $0.3 million for each of the periods ending December 31, 2021 and 2022 (see Note 3).

In June 2022, the Company entered into a Development, Option and License Agreement with Affini-T to perform research and development activities (see Note 7). The Company received an upfront equity consideration of 719,920 shares of Affini-T's common stock with an estimated fair value of $1.3 million in June 2022. The fair value of common shares was estimated by the Company's management, considering the most recent third-party valuation. No impairment loss was recognized on the Company's investment in Affini-T as of December 31, 2021 and 2022.

ViTToria investment

The Company purchased 603,262 Series Seed-2 convertible preferred stock shares of ViTToria Biotherapeutics, Inc. ("Vittoria"), a private biotechnology company, for a total of $2.2 million cash in July and December 2021.

During the years ended December 31, 2021 and 2022, the Company did not have a board seat and owned less than 20% of outstanding voting shares of Vittoria. The investment in Vittoria does not provide the Company the ability to control or have significant influence over Vittoria's operations. The Company accounted for the investment in Vittoria's Series Seed-2 convertible preferred stock using the measurement alternative method. The fair value of the investment was estimated by management using per share price of $3.57, which was the price paid for convertible preferred stock shares by other investors. As of December 31, 2021 and 2022, the carrying value of Vittoria's investment was $2.2 million and no impairment was recognized.

6. Consolidated balance sheets components

Property and equipment, net consists of the following (in thousands):

		December 31,	
	Useful life	2021	2022
Laboratory equipment	5	$3,029	$13,455
Leasehold improvements	lesser of useful life or the lease term	293	3,531
Furniture and fixtures	3	190	328
Computers and related equipment	3	16	54
Construction in progress		887	1,402
Total property and equipment		4,415	18,770
Less: Accumulated depreciation and amortization		(553)	(2,248)
Total property and equipment, net		$3,862	$16,522

The depreciation and amortization expense was $0.4 million and $1.7 million for the years ended December 31, 2021 and 2022, respectively.

Prepaid expenses and other current assets consist of the following (in thousands):

	December 31,	
	2021	2022
Payroll tax credit	$300	$ 289
Interest receivable on available-for-sale marketable securities	190	261
Prepaid research and development expenses	—	685
Grant income receivable	—	125
Other prepaid expenses and other current assets	272	2,134
Total prepaid expenses and other current assets	$762	$3,494

Other assets consist of the following (in thousands):

	December 31,	
	2021	2022
Operating lease deposit	$276	$ 237
Prepaid property and equipment	250	—
Long-term prepaid services	—	213
Deferred finance issuance costs	143	—
Total other assets	$669	$ 450

Accrued expenses and other current liabilities consist of the following (in thousands):

	December 31,	
	2021	2022
Accrued personnel related expenses	$2,244	$4,819
Accrued legal and professional services	414	1,200
Accrued purchases of property and equipment	382	896
Accrued research and development expenses	147	1,684
Other accrued liabilities	344	191
Total accrued expenses and other current liabilities	$3,531	$8,790

7. Significant agreements

Moderna strategic collaboration and license agreement

Terms of the agreement

On October 29, 2021, the effective date, the Company entered into a Strategic Collaboration and License Agreement (the "Moderna Agreement") with ModernaTX, Inc. ("Moderna"). The parties will collaborate on the research and development of *in vivo* genome editing therapies directed at certain targets and the commercialization of such genome editing therapies. The collaboration provides Moderna with exclusive access to the Company's technology platform during the research period in (1) the field of *in vivo* gene editing technology for a therapeutic, ameliorative or prophylactic application by way of knock-out through InDel formation or base editing or insertion of an exogenous DNA template (such field, "DT Field") and (2) the field of *in vivo* gene editing technology for a therapeutic, ameliorative or prophylactic application outside the use of (a) DNA donor templates and (b) no exogenous template at all but including (c) correction by base editing (such field, "RT Field"). The parties formed a joint steering committee, a joint research subcommittee and a joint patent subcommittee to oversee the collaboration activities.

Under the terms of the Moderna Agreement, the parties will collaborate on one or more programs in the RT Field (the "Moderna RT program") and two programs in the DT Field (the "Moderna DT program" and the "DT Co-Co program").

With respect to the Moderna RT and Moderna DT programs, the parties will collaborate on the research and development of product candidates under the approved research plans. The initial research term of the Moderna RT program is four years, which may be extended by Moderna for an additional three years upon written notice and a payment of extension fees. The initial research term of the Moderna DT program is four years. The Company granted to Moderna an option to obtain an exclusive license to develop, manufacture and commercialize up to ten Moderna RT program candidates and up to two Moderna DT program candidates at any time during the research term and prior to filing of an investigational new drug ("IND") application with the Food Drug and Administration ("FDA") or any similar application filed with a regulatory authority in a country other than the United States ("U.S."), subject to Moderna's payment of an option exercise fee of $10.0 million per target.

With respect to the DT Co-Co program, the parties will work together on the co-development and commercialization of products and share costs and profits equally. The Company maintains commercialization rights in the U.S. (subject to Moderna's right to appoint up to 50% of the U.S. sales force for the DT Co-Co program), while Moderna maintains these rights in countries other than the U.S. The initial research term for the DT Co-Co program is four years, and each party has a right to opt-out of the DT Co-Co program at any time, at which point the other party has the right to solely continue the development and commercialization activities. If there is no development candidate nomination by the end of the initial research term, the DT Co-Co program will expire, unless the parties have mutually agreed to continue the program.

During the year ended December 31, 2021, the Company received a non-refundable upfront payment of $40.0 million and a $5.0 million payment for the first year of research costs. Concurrent with the Moderna Collaboration Agreement, Moderna also provided $30.0 million in cash in the form of a convertible promissory note (see Note 9) pursuant to a convertible promissory note agreement dated October 29, 2021 (the “Moderna Convertible Promissory Note Agreement”). Moderna will reimburse the Company up to $5.0 million in annual research and development costs related to the Moderna DT and Moderna RT programs, or up to the agreed amount of expenses per the budget.

For the Moderna RT and Moderna DT programs, the Company is eligible to receive (i) technology milestone fees related to the achievement of certain preclinical research objectives of up to $75.0 million, (ii) development and regulatory milestones of up to $100.0 million per target, (iii) sales milestones of up to $200.0 million per target, and (iv) royalties ranging from a mid-single digit to a low-teens percentage of annual net sales of a licensed product. Any profits and losses from the co-development and commercialization of the DT Co-Co program are shared equally between the Company and Moderna. With respect to the DT Co-Co program for which the opt-out party has exercised its opt-out right, the continuing party will pay to the opt-out party, certain development, regulatory and sales milestone payments that will not exceed an aggregate $239.0 million per DT Co-Co target, and opt-out royalties ranging from a high-single digit to a low-teens percentage of annual net sales of a licensed product.

The term of the Moderna Agreement will continue on a licensed product-by-licensed product and country-by-country basis, until the expiration of the applicable royalty term. The royalty term commences on the first commercial sale of a licensed product and terminates on the latest of: (a) the expiration or abandonment of the last valid claim of a patent within the licensed Moderna DT or RT technology; (b) 10 years after the first commercial sale of a licensed product; and (c) expiration of the regulatory exclusivity. Upon the expiration of the term of a licensed product in the Moderna DT or Moderna RT program, the licenses granted to Moderna will survive and become perpetual, fully paid and royalty-free. Each party may terminate the Moderna Agreement on a program-by-program basis upon written notice to the other party for an uncured material breach or insolvency. The Company may terminate the Moderna Agreement upon written notice to Moderna for a patent challenge. Additionally, Moderna may terminate the agreement at its convenience with respect to Moderna DT or Moderna RT programs for any reason upon at least: (a) 60 days’ prior written notice if a first commercial sale has not occurred for the products in such program, or (b) 180 days’ prior written notice if a first commercial sale of a product in such program has occurred.

Accounting analysis and revenue recognition

The Company concluded that the Moderna DT and Moderna RT programs are in the scope of ASC 606. The Company determined that the licenses granted to Moderna, and its participation in the joint steering committee are not capable of being distinct from the preclinical research and development services and therefore concluded that there are two performance obligations: (1) the Moderna RT program and (2) the Moderna DT program. The Company also concluded that the option to obtain an exclusive license and options to extend Moderna RT program term do not include significant incremental discounts, and as such, the options do not provide material rights.

The Company concluded the DT Co-Co program research activities are within the scope of ASC 808, as the Company and Moderna are both active participants in the research, development and commercialization activities, are exposed to significant risks and rewards that are dependent on the success of the DT Co-Co program activities and share costs and profits equally. The Company determined that the guidance in ASC 730, *Research and Development*, was appropriate to apply to the DT Co-Co program research activities by analogy, based on the nature of the cost sharing provisions of the agreement. The Company concluded that DT Co-Co

program is one unit of accounting, as the co-exclusive license is not distinct from the research and development and the participation in joint steering committee activities. The Company recognizes payments to or from Moderna related to the DT Co-Co program cost sharing research activities as an increase to or reduction of research and development expenses, respectively.

The Company concluded that the Moderna Collaboration Agreement and the Moderna Convertible Promissory Note Agreement should be combined and treated as a single arrangement for accounting purposes as the agreements were entered into contemporaneously and in contemplation of one another. The Company estimated the contract consideration to be $90.0 million, which consisted of: 1) the non-refundable upfront collaboration payment of $40.0 million received in 2021, 2) $30.0 million in cash received in 2021 in exchange for the convertible promissory note and 3) the estimated cost reimbursements for Moderna DT and Moderna RT programs of $20.0 million. The Company constrained future milestones, as it assessed that it is probable that the inclusion of such variable consideration could result in a significant reversal of cumulative revenue in future periods. During the year ended December 31, 2021, the Company recorded $30.0 million of the contract consideration for the convertible promissory note based on the fair value (see Note 9) and allocated the transaction price of $60.0 million to each of the following programs on a relative standalone selling price basis: 1) $49.5 million to the Moderna RT program, 2) $5.5 million to the Moderna DT program, and 3) $5.0 million to the DT Co-Co program.

The variable consideration is reevaluated at each reporting period and as changes in circumstances occur. The Company recognizes revenue for each of the Moderna DT and Moderna RT programs as collaboration revenue based on the measure of progress using an estimated cost-based input method each reporting period. The Company also amortizes the allocation consideration for the DT Co-Co program of $5.0 million as a credit to research and development expenses during the discovery and lead optimization phases for the DT Co-Co program.

The Company recognized collaboration revenue of $0.2 million and $14.5 million in the consolidated statements of operations and comprehensive loss for the years ended December 31, 2021 and 2022, respectively. As of December 31, 2021 and 2022, deferred revenue related to Moderna was $39.7 million and $30.2 million, respectively. Collaboration revenue recognized during the year ended December 31, 2022 included $14.5 million that was included in deferred revenue as of December 31, 2021. The value of the transaction price allocated to the remaining unsatisfied portion of the performance obligations was approximately $41.9 million as of December 31, 2022, which the Company expects to recognize as revenue over the next three-to-four years.

The Company recognized $0.2 million and $0.3 million in credits to research and development expenses related to cost sharing allocation and amortization of the collaboration advance, respectively, within research and development expenses in the consolidated statement of operations and comprehensive loss during the year ended December 31, 2021. The Company recognized $0.9 million and $3.5 million in credits to research and development expenses related to cost sharing allocation and amortization of the collaboration advance, respectively, during the year ended December 31, 2022. As of December 31, 2021, the collaboration advance balance was $4.7 million, partially offset by the cost-sharing receivable balance of $0.2 million, which was presented as a collaboration advance on the Company's consolidated balance sheet. As of December 31, 2022, the collaboration advance balance was $1.1 million, partially offset by the cost-sharing receivable balance of $0.4 million, which was presented as a collaboration advance on the Company's consolidated balance sheet.

Affini-T development, option and license agreement

Terms of the agreement

On June 14, 2022, the effective date, the Company entered into a Development, Option and License Agreement (the "Affini-T Agreement") with Affini-T. Pursuant to the Affini-T Agreement, the parties have agreed to identify,

develop or optimize certain reagents using the Company's proprietary technology for Affini-T to use such reagents to develop and commercialize gene edited T-cell receptor ("TCR")-based therapeutic products exclusively in the field of treatment, prevention or diagnosis of any human cancer using products with any engineered primary TCR alpha/beta T cells and non-exclusively in the field of treatment, prevention or diagnosis of any human cancer using products with certain other engineered immune cells worldwide. A joint steering committee was established by both parties to assign alliance managers and project leaders to oversee the collaboration activities.

Pursuant to the Affini-T Agreement, the Company granted Affini-T options to receive, on a pre-specified target-by-pre-specified target basis, for up to six pre-specified targets, either (i) an exclusive, royalty-bearing, sublicensable worldwide license under all of the Company's applicable intellectual property to research, develop, manufacture, use, commercialize and otherwise exploit any TCR-based therapy, preventative treatment, or diagnostic for humans that is directed to such pre-specified target, contains or comprises Primary TCR alpha/beta T Cells and is derived from *ex vivo* application of a Company reagent (the "Exclusive Option") or (ii) a non-exclusive, royalty-bearing, sublicensable worldwide license under all of the Company's applicable intellectual property to research, develop, manufacture, use commercialize and otherwise exploit any TCR-based therapy, preventative treatment, or diagnostic for humans that is directed to such pre-specified target, contains or comprises TCR natural killer ("NK") cells derived from iPSC immune cells or TCR T cells derived from donor-derived or iPSC immune cells. Affini-T can exercise its options for either an exclusive license or a non-exclusive license, or both, for each pre-specified target by providing written notice prior to the earlier of (x) the end of the Affini-T Agreement term or (y) 90 days following the filing of an IND for a licensed product directed to a pre-specified target, subject to the payment of certain fees per each option exercised. After the option exercise, Affini-T has agreed to use commercially reasonable efforts to conduct all development and commercialization activities for a licensed product, and development and commercialization of all licensed products will be at Affini-T's sole cost and expense.

In connection with the Affini-T Agreement, the Company received upfront equity consideration of 719,920 shares of Affini-T's common stock with an estimated fair value of $1.3 million in June 2022. The fair value of Affini-T's shares of common stock was estimated by the Company's management, considering the most recent third-party valuation. Affini-T has also agreed to reimburse the Company for expenses incurred while performing research activities under the research plans. Additionally, the Company is eligible to receive (i) 933,650 shares of Affini-T's common stock upon the achievement of a regulatory milestone, which is the earlier of a submission of a drug master file to the FDA or an acceptance of an IND filing for a licensed product by the FDA, (ii) up to $18.8 million in future developmental milestone payments depending on the completion of or the number of patients dosed in, the relevant human clinical trial, or the initiation of a pivotal trial, and $40.6 million in future regulatory approval milestone payments, which include regulatory approvals in the U.S. and other markets for licensed products directed to a pre-specified target if options for both exclusive and non-exclusive licenses are exercised with respect to such target, (iii) up to $250.0 million in sales-based milestones for aggregate sales of all licensed products directed to a given pre-specified target and (iv) royalties ranging from a low-single digit to high-single digit percentage of worldwide annual net sales of licensed products.

The initial term of the Affini-T Agreement is five years from the effective date. If Affini-T exercises an Exclusive Option with respect to any pre-specified target during the initial term, the initial term will be extended by an additional five years. Following the expiration of the extended term, if any, the agreement will continue on a target-by-target basis and expire with respect to such target upon the expiration of the royalty term for all licensed products directed to such target. The Affini-T Agreement may be terminated during the term by either party for an uncured material breach by, or bankruptcy of, the other party. Additionally, Affini-T may terminate the Affini-T Agreement for convenience, in its entirety, on a research plan-by-research plan basis, on a target-by-target basis or on a licensed product-by-licensed product basis, by providing prior written notice.

Accounting analysis and revenue recognition

The Company concluded that the Affini-T Agreement is in the scope of ASC 606 and that there is one performance obligation to perform research activities under the Affini-T Agreement. Exclusive and non-exclusive licenses are optional contingent purchases that do not include significant incremental discounts, and therefore do not provide a material right.

At the effective date, the transaction price consisted of the upfront equity consideration with an estimated fair value of $1.3 million and estimated research reimbursement costs. Research reimbursement costs represent variable consideration, and the Company's management estimates what portion to include in total consideration at the end of each reporting period. Other payments under the Affini-T Agreement, including additional equity consideration and development and regulatory milestones, also represent variable consideration, and are constrained to the extent that the inclusion of such variable consideration could result in a significant reversal of cumulative revenue in future periods. As of December 31, 2022, additional equity consideration and future development and regulatory milestone payments were excluded from the estimated total transaction price as they were considered constrained. The transaction price is reevaluated in each reporting period and as changes in circumstances occur. The Company recognizes revenue each reporting period based on the measure of progress using an estimated cost-based input method.

The Company recognized $2.6 million in collaboration revenue in the consolidated statements of operations and comprehensive loss during the year ended December 31, 2022. As of December 31, 2022, the Company recorded $1.3 million in contract assets on the consolidated balance sheet, related to services performed but not invoiced. There was no deferred revenue related to the Affini-T Agreement as of December 31, 2022. The value of the transaction price allocated to the remaining unsatisfied portion of the performance obligation was approximately $8.0 million as of December 31, 2022, which the Company expects to recognize as revenue over the next five-to-six years. In June 2023, the joint steering committee approved the budget for estimated research reimbursement costs for the Affini-T Agreement, which resulted in a $2.4 million reduction to variable consideration.

Ionis collaboration and license agreement

Terms of the agreement

On November 10, 2022, the effective date, the Company entered into a Collaboration and License Agreement (the "Ionis Agreement") with Ionis Pharmaceuticals, Inc. ("Ionis") to collaborate on drug discovery and exploratory research activities to advance new medicines using gene editing strategies, with the goal of discovering novel medicines. Pursuant to the terms of the Ionis Agreement, the Company granted Ionis and its affiliates a worldwide exclusive, royalty-bearing license, with the right to grant sublicenses, to use all licensed systems and licensed products in the field of *in vivo* gene editing for all therapeutic, prophylactic, palliative, and analgesic uses in humans. In connection with the Ionis Agreement, the Company also has the right to exercise an exclusive option to co-develop and co-commercialize certain products under a drug discovery program. A joint steering committee was established by both parties to coordinate, oversee, and monitor the research and drug discovery activities under the Ionis Agreement.

The parties will collaborate to discover therapeutic products under a drug discovery program and develop a drug discovery plan for each target, selected by Ionis. The target selection is divided into two waves: up to four targets in Wave 1 and up to four targets in Wave 2. For each drug discovery program, once the parties identify a development candidate that is suitable for further development, Ionis will be responsible for the development and commercialization of products resulting from such program. Per the terms of the Ionis Agreement, at any time prior to the designation of a development candidate for a drug discovery program and for any reason, Ionis may replace the collaboration target, provided such target has not previously been substituted out. Ionis may substitute (i) up to two Wave 1 targets and (ii) up to two Wave 2 targets.

The drug discovery activities for a program commence on the selection of a target and expire upon the earlier of (a) completion of all drug discovery activities for such program, (b) the fifth anniversary of the effective date and (c) selection of a development candidate for such drug discovery program. If one or more Wave 2 targets become collaboration targets as a result of the parties achieving enabled delivery and less than two years are remaining in the drug discovery term, then the term will be extended to the earlier of (i) the time that the Company completes all of its activities under the applicable drug discovery plan and (ii) the seventh anniversary of the effective date, subject to the Company's consent.

The parties will also conduct an exploratory research program, and will jointly optimize gRNA and select delivery technologies and other activities. The exploratory research activities commence on the effective date and expire upon the earlier of (a) completion of all exploratory research activities established in the exploratory research plan, and (b) the fifth anniversary of the effective date.

The Company has the exclusive option to co-develop and co-commercialize the licensed products under a drug discovery program (the "Co-Co Option") with Ionis. The Co-Co Option may be exercised for (a) the initial Wave 1 target ("Target 1"), (b) no more than one of the other three discovery programs for the Wave 1 targets, and (c) no more than two drug discovery programs for the Wave 2 targets that become collaboration targets. If the Company exercises the Co-Co Option for a particular drug discovery program, that drug discovery program will automatically be deemed a "Co-Co Program", all corresponding licensed products be deemed "Co-Co Products," the Company will be obligated to pay Ionis an option exercise fee, and the parties will enter into a separate co-development and co-commercialization agreement. The Co-Co Option exercise fee will equal 50% of Ionis' internal costs and out-of-pocket costs incurred in the conduct of the drug discovery activities prior to the exercise of the Co-Co Option and be reduced by 50% of the Company's corresponding costs incurred. Future development and commercialization costs will be shared equally. The Company may elect to reduce its cost-share percentage anywhere between 50% and 25% on a go-forward basis, provided the Company will continue to bear 50% of the costs of any clinical trials ongoing at the time of the election through the completion of the clinical trials.

The Company will manufacture all licensed systems and certain components of the applicable licensed products that are needed by Ionis for use in its development activities and all of the Company's manufactured components needed by Ionis for use in its commercialization activities. The Company will provide the manufactured components at a price that represents the cost of goods plus 15%.

Pursuant to the terms of the Ionis Agreement, the Company has also been granted an option to obtain a non-exclusive, royalty-bearing license, with the right to grant sublicenses, for certain Ionis' background technology to use in up to eight therapeutic products discovered by the Company in the field of *in vivo* gene editing and directed to a Collaboration Target (each such product, a "Metagenomi Product" and each such option an "Ionis IP Option"), but subject to encumbrance checks with respect to particular targets. A Collaboration Target is a target that is selected by Ionis, and, with respect to the Company is not the subject of discussions with a third party, is not the subject of a contractual grant of rights to a third party nor the subject of a Company bona fide research and development program. If the Company exercises its Ionis IP Option, the Company will pay to Ionis up to several million dollars per Metagenomi Product upon achievement of certain clinical and regulatory milestones. The Company is also obligated to pay Ionis royalties in an amount equal to a low single-digit royalty on the net sales of the applicable Metagenomi Product on product-by-product and country-by-country basis.

In November 2022, the Company received an $80.0 million upfront payment from Ionis for the Wave 1 drug discovery research collaboration and selected Target 1. Ionis selected its second target ("Target 2") in Wave 1 in December 2022, and will select two final additional Wave 1 targets ("Target 3" and "Target 4") within the 12 months from the effective date, as permitted under the arrangement. Ionis has an option to select up to four

Wave 2 targets at any time during the drug discovery term, if (a) an IND for any licensed product directed to a Wave 1 target is filed with the applicable regulatory authority or (b) the parties achieve enabled delivery for a non-liver target under the exploratory research activities, by providing written notice and by paying a Wave 2 target selection fee of $15.0 million or $30.0 million, depending on and per the selected target.

Ionis is obligated to reimburse the Company for all internal costs and out-of-pocket costs incurred in the performance of the exploratory research activities, up to an aggregate of $10.0 million, which is payable in quarterly installments of $0.5 million during the exploratory research term. The Company is also eligible to receive (a) up to $29.0 million in future development milestone payments for each licensed product; (b) up to $60.0 million in future regulatory milestone payments for each licensed product; (c) up to $250.0 million in sales-based milestones for each licensed product; and (d) royalties on annual net sales of licensed products from a mid-single-digit to low-teens percentage, subject to customary reductions.

The term of the Ionis Agreement will continue (i) with respect to the drug discovery programs, until the expiration of all applicable royalty terms for a licensed product, (ii) with respect to the Co-Co Programs, until the parties cease all exploitation for the Co-Co Products that are the subject to such Co-Co Program, and (iii) with respect to the Metagenomi Products, until the expiration of the royalty term for a Metagenomi Product. The royalty term ends on the latest of the following two dates: (i) the expiration of (A) the last claim of any issued and unexpired patent, or (B) a claim within a patent application that has not been pending for more than seven years from the earliest date to which the claim or applicable patent application is entitled to claim priority and which claim has not been revoked, cancelled, withdrawn, held invalid, or abandoned, or (ii) 12 years following the first commercial sale of a licensed product.

The Ionis Agreement may be terminated during the term by either party for an uncured material breach or bankruptcy by the other party. Additionally, Ionis may terminate the Ionis Agreement for convenience and without penalty, in its entirety or on a licensed product-by-licensed product basis, by providing 90 days' written notice.

Accounting analysis and revenue recognition

The Company concluded that the Ionis Agreement is in the scope of ASC 606 at the effective date and until the Company exercises its Co-Co Option for any drug discovery program, which was determined to not be probable at the effective date and as of December 31, 2022. The Company also concluded that exclusive licenses and participation in a joint steering committee are not distinct from discovery research services and should thus be combined into one performance obligation (the "discovery program"). The Company also concluded that exploratory research services are a separate and distinct performance obligation (the "exploratory program"). As the Ionis options for Wave 2 targets are optional purchases and do not have significant incremental discounts, as such, the options do not provide material rights.

The Company allocated the total estimated transaction price of $90.0 million, which consisted of an $80.0 million upfront payment received in November 2022 and a $10.0 million reimbursement for research costs, into two performance obligations, and was determined based on their estimated standalone selling prices. The Company concluded that future development and commercial supply agreements are at market terms, as the terms were consistent with industry standards as of the effective date. The Company constrains future milestone payments under the arrangement to the extent that the inclusion of such variable consideration could result in a significant reversal of cumulative revenue in future periods. The Company constrained all development and regulatory milestone payments at the effective date and as of December 31, 2022. The Company is recognizing revenue of $80.0 million related to the discovery program and of $10.0 million related to exploratory program over the research terms using an estimated cost-based input method as a measure of progress for each obligation.

The Company recognized $0.1 million in collaboration revenue in the consolidated statements of operations and comprehensive loss during the year ended December 31, 2022. As of December 31, 2022, deferred revenue

related to the Ionis Agreement was $79.9 million. The value of the transaction price allocated to the remaining performance obligations was approximately $89.9 million as of December 31, 2022, which the Company expects to recognize as revenue over the next five-to-six years.

8. Cystic fibrosis foundation grant income

In April 2021, the Company received an award of $0.6 million to finance a development program (the “CFF Grant Letter”), to discover and use novel gene-editing systems to correct cystic fibrosis transmembrane conductance regulator mutations, from Cystic Fibrosis Foundation (“CFF”), a non-profit organization. In accordance with CFF Grant Letter, the Company received $0.4 million upon initiation of the development program in June 2021 and expects to receive $0.2 million upon the program completion in 2023 fiscal year. The award was provided to the Company without a provision for financial return to CFF. However, in the event that CFF provides additional funding to the Company, pursuant to a separate agreement between CFF and the Company (a “Future Funding Agreement”), CFF may receive royalty rights, an equity interest, a debt instrument or other consideration of economic value that is based on the amount of funding CFF has provided to the Company, the award amount actually paid to the Company under the current award will be treated as an advance towards, and included in, the award amount, investment amount, principal amount or other similar term representing the amount of funding provided by CFF to the Company under the Future Funding Agreement. The Company does not expect to receive any future funding from CFF and concluded that funds received are non-refundable. The Company recognized $0.2 million and $0.3 million related to the progress of a development program during the years ended December 31, 2021 and 2022, respectively, as other income (expense), net, in the consolidated statements of operations and comprehensive loss, as this grant is not considered an ongoing major and central operation of the Company’s business. The Company recognized $0.2 million and zero of deferred grant income in accrued expenses and other current liabilities in the consolidated balance sheet as of December 31, 2021 and December 31, 2022, respectively. The Company recognized $0.1 million of grant income receivable in prepaid expenses and other current assets in the consolidated balance sheets as of December 31, 2022.

9. Convertible promissory note

In October 2021, together with the Moderna Agreement, the Company issued a convertible promissory note for $30.0 million to Moderna with 6.0% annual interest payable upon the note maturity in April 2023. The Company cannot prepay the convertible promissory note without Moderna’s consent. The outstanding principal amount and any unpaid accrued interest is automatically convertible into redeemable convertible preferred units sold in a private financing with total gross cash proceeds of not less than $50.0 million (the “Qualified Financing”) at a conversion price equal to the purchase price per unit that depends on the timing of the qualified financing: i) 100% of the lowest price paid per unit by investors in the qualified financing, if the qualified financing occurs within three months from the note issuance date; ii) 95% of the lowest price paid per unit by investors in the qualified financing, if the qualified financing occurs between three and six months from the note issuance date; iii) 90% of the lowest price paid per unit by investors in the qualified financing, if the qualified financing occurs between six and twelve months from the note issuance date; iv) 85% of the lowest price paid per unit by investors in the qualified financing, if the qualified financing occurs after twelve months from the note issuance date.

Moderna also had an option to convert the note on similar terms in the event of a non-qualified financing using the conversion price upon a qualified financing. Upon maturity, the outstanding principal and accrued interest is either due and payable in full or converted in the Series A-5 redeemable convertible preferred units (or the most senior redeemable convertible preferred units of the Company then outstanding) at a conversion price equal to the original issue price of the Series A-5 redeemable convertible preferred units (or the most senior units of the Company then outstanding). Principal and accrued interest of the note were payable in cash in an

event of default. In a deemed liquidation event the outstanding principal and accrued and unpaid interest is either due and payable in full, plus 50% on the outstanding principal amount of the note or were convertible into the common units of the Company at a conversion price equal to the original issue price of the Series A-5 redeemable convertible preferred units (or the most senior units of the Company then outstanding). In the event that the Company closes its initial public offering of its common units or common stock or other equity securities with total gross proceeds of not less than $50.0 million ("Qualified IPO"), the principal and unpaid accrued interest then outstanding is convertible automatically into the same type of the Company's securities issued upon IPO at 90% of the lowest purchase price paid per equity securities in the Qualified IPO.

The convertible promissory note is carried at amortized cost, which management estimates approximates its fair value. On the issuance date of the convertible promissory note, the Company concluded that certain embedded unit-settled conversion put features, qualified IPO features and deemed liquidation put features were derivatives that required bifurcation. The Company estimated the fair value of embedded derivatives was minimal due to the low probability of settlement events for these features. The Company recognized $34,000 of issuance costs as a debt discount related to legal fees, which was amortized to interest expense over the term of the note using effective interest method. The Company recognized $0.3 million and $0.1 million of accrued interest expense in the consolidated statements of operations and comprehensive loss for the years ended December 31, 2021 and 2022, respectively.

The convertible promissory note and all accrued interest were converted, upon the Qualified Financing, into 2,607,387 Series B redeemable convertible preferred units without any discount in January 2022 (see Note 11) and no gain or loss was recognized on the conversion.

10. Commitments and contingencies

Operating leases

In November 2019, the Company entered into a 5-year operating lease for laboratory and office space in Emeryville, California. In conjunction with signing the lease, the Company secured a letter of credit in favor of the lessor in the amount of $0.2 million. The lease agreement includes a renewal provision allowing the Company to extend this lease for an additional 5 years at the prevailing rental rate, which the Company was not reasonably certain to exercise. In addition to base rent, the Company was obligated to pay variable costs related to its share of operating expenses and taxes as well as parking fees for unreserved parking spaces in a shared lot. In March 2021, this lease was modified to shorten the lease term to terminate in April 2021. Lease payments made related to this lease in 2021 totaled $0.1 million. In May 2021, the letter of credit related to this lease was canceled.

In January 2021, the Company entered into a ten-year operating lease for laboratory and office space in Emeryville, California. The lease commencement date was in February 2021. In conjunction with signing this lease, the Company secured a letter of credit for $3.3 million, which is recorded as noncurrent restricted cash in the consolidated balance sheets. The lease agreement includes a renewal provision allowing the Company to extend this lease for an additional five years, which the Company is not reasonably certain to exercise. In addition to base rent, the Company pays variable costs related to operating expenses and taxes, which are recognized as incurred.

In September 2021, the Company entered into a 9.25-year operating lease for office space in Emeryville, California, with a lease commencement date in November 2021. In conjunction with signing the lease, the Company secured a letter of credit for $0.8 million, which is recorded as noncurrent restricted cash in the consolidated balance sheets. In addition to base rent, the Company will pay variable costs related to operating expenses and taxes, which are recognized as incurred.

In November 2022, the Company entered into an 8.25-year sublease for office, research and laboratory space in Emeryville, California, with a lease commencement date in January 2023. In conjunction with signing the lease, the Company secured a letter of credit for $2.0 million, which is recorded as restricted cash in the consolidated balance sheet as of December 31, 2022. Payments for base rent required under this lease are expected to total approximately $49.3 million over the term, of which $2.9 million is payable within the 12 months. In addition to base rent, the Company will pay variable costs related to its share of operating expenses and taxes. As this lease has not yet commenced as of December 31, 2022, no right-of use asset or lease liability is recorded.

Operating lease cost for the years ended December 31, 2021 and 2022, totaled $2.2 million and $3.5 million, respectively, including $0.5 million and $0.4 million of variable lease cost, respectively.

Supplemental information related to the Company's operating leases is as follows (in thousands):

	Years ended December 31	
	2021	2022
Cash paid for amounts included in the measurement of lease liabilities	$ 1,453	$ 2,158
Weighted average remaining lease term (in years)	9.1	8.1
Weighted-average discount rate	10.1%	10.1%

The following table summarizes a maturity analysis of the Company's operating lease liabilities showing the aggregate lease payments as of December 31, 2022 (in thousands):

2023	$ 3,279
2024	3,122
2025	3,216
2026	3,313
2027	3,412
Thereafter	10,862
Total future lease payments	27,204
Less imputed interest	(8,633)
Total lease liability balance(1)	18,571
Less: current operating lease liabilities	(1,515)
Non-current operating lease liabilities	$17,056

(1) Total lease liability as of December 31, 2022 excludes lease payments of $49.3 million for a lease signed but not yet commenced.

Legal contingencies

From time to time, the Company may become involved in legal proceedings arising from the ordinary course of business. The Company records a liability for such matters when it is probable that future losses will be incurred and that such losses can be reasonably estimated. Significant judgment by the Company is required to determine both probability and the estimated amount. Management is currently not aware of any legal matters that could have a material adverse effect on the Company's financial position, results of operations or cash flows.

Guarantees and indemnifications

In the normal course of business, the Company enters into agreements that contain a variety of representations and provide for general indemnification. Its exposure under these agreements is unknown because it involves claims that may be made against the Company in the future. To the extent permitted under Delaware law, the

Company has agreed to indemnify its directors and officers for certain events or occurrences while the director or officer is, or was serving, at a request in such capacity. To date, the Company has not paid any claims or been required to defend any action related to its indemnification obligations. As of December 31, 2021 and 2022, the Company did not have any material indemnification claims that were probable or reasonably possible and consequently has not recorded related liabilities.

11. Redeemable convertible preferred units

On March 15, 2021, the Company closed the Series A-5 financing and issued 1,580,937 shares of the Series A-5 redeemable convertible preferred units for gross cash proceeds of $10.0 million. The Company incurred $0.1 million in issuance costs.

On January 21, 2022, the Company closed the Series B financing and issued 12,446,876 shares of the Series B redeemable convertible preferred units for gross cash proceeds of $145.0 million. The Company incurred $0.7 million in issuance costs. Concurrently with the closing of the Series B financing, the outstanding Moderna convertible promissory note and accrued interest of $30.4 million was converted into 2,607,387 Series B Preferred Units, at a conversion price equal to the price per unit paid by the Series B investors.

On December 20, 2022, the Company entered into Series B-1 redeemable convertible preferred unit purchase agreement to sell up to 7,108,480 Series B redeemable convertible preferred units at the purchase price of $14.06770. In December 2022, the Company sold and issued 6,773,726 shares of the Series B-1 redeemable convertible preferred units for gross cash proceeds of $95.3 million in the initial closing. The Company incurred $0.4 million issuance costs. Additional shares may be sold within 90 days of the initial closing.

As of December 31, 2022, the Company operated under the Amended and Restated Limited Liability Company Agreement dated December 20, 2022 (the “LLC Agreement”). The LLC Agreement provides for eight classes of units: common units, Series A-1 redeemable convertible preferred units (Series A-1), Series A-2 redeemable convertible preferred units (Series A-2), Series A-3 redeemable convertible preferred units (Series A-3), Series A-4 redeemable convertible preferred units (Series A-4), Series A-5 redeemable convertible preferred units (Series A-5), Series B redeemable convertible preferred units (Series B) and Series B-1 redeemable convertible preferred units (Series B-1).

The redeemable convertible preferred units as of December 31, 2021, consisted of the following (in thousands, except unit data):

	Units authorized	Units issued and outstanding	Aggregate liquidation preference	Net carrying value
Series A-1	7,501,002	7,501,002	$ 24,247	$ 24,067
Series A-2	774,473	774,473	500	581
Series A-3	1,513,860	1,513,860	1,773	1,892
Series A-4	8,280,360	8,280,360	40,149	40,007
Series A-5	1,580,937	1,580,937	10,000	9,948
	19,650,632	19,650,632	$ 76,669	$ 76,495

The redeemable convertible preferred units as of December 31, 2022, consisted of the following (in thousands, except unit data):

	Units authorized	Units issued and outstanding	Aggregate liquidation preference	Net carrying value
Series A-1	7,501,002	7,501,002	$ 24,247	$ 24,067
Series A-2	774,473	774,473	500	581
Series A-3	1,513,860	1,513,860	1,773	1,892
Series A-4	8,280,360	8,280,360	40,149	40,007
Series A-5	1,580,937	1,580,937	10,000	9,948
Series B	15,054,263	15,054,263	175,375	174,678
Series B-1	7,108,480	6,773,726	95,291	94,930
	41,813,375	41,478,621	$ 347,335	$ 346,103

The holders of the redeemable convertible preferred units have various rights and preference as follows:

Voting rights

Each redeemable convertible preferred unit is entitled to one vote for each common unit into which such redeemable convertible preferred unit is then convertible. The redeemable convertible preferred unitholders and the common unitholders vote together on all matters as a single class, except as otherwise provided by law or the provisions of the LLC Agreement.

The Board of Managers consists of up to seven individuals. As long as at least 618,716 Series A-1 redeemable convertible preferred units, Series A-2 redeemable convertible preferred units and/or Series A-3 redeemable convertible preferred units remain outstanding, the members holding a majority of the outstanding Series A-1 redeemable convertible preferred units, Series A-2 redeemable convertible preferred units and Series A-3 redeemable convertible preferred units, voting together as a single class on an as-converted basis, are entitled to elect one manager. As long as at least 1,654,555 Series A-4 redeemable convertible preferred units remain outstanding, the members holding a majority of the Series A-4 redeemable convertible preferred units, voting as a single class, are entitled to elect one manager. As long as at least 316,187 Series A-5 redeemable convertible preferred units remain outstanding, the members holding a majority of the Series A-5 redeemable convertible preferred units, voting as a single class, are entitled to elect one manager. As long as at least 3,010,852 Series B redeemable convertible preferred units remain outstanding, the members holding a majority of the Series B redeemable convertible preferred units, voting as a single class, are entitled to elect one manager. The members holding a majority of the common units, voting as a single class are entitled to elect one manager. The members holding a majority of the units then outstanding, voting together as a single class on an as-converted to common units basis are entitled to elect any remaining managers. As of December 31, 2021 and 2022, respectively, the Company's Board of Managers consisted of five and six individuals, respectively.

Conversion

Each redeemable convertible preferred unit is convertible into common units at the option of a holder at the then applicable conversion price, which is equal the original purchase price, subject to adjustments for recapitalization and others. The original purchase price is equal to $3.2325 per Series A-1 Preferred Unit, $0.6456 per Series A-2 Preferred Unit, $1.1713 per Series A-3 Preferred Unit, $4.84875 per Series A-4 Preferred Unit, $6.32536 per Series A-5 Preferred Unit, $11.64951 per Series B Preferred Unit, and $14.06770 per Series B-1 Preferred Unit. As of December 31, 2021 and 2022, the redeemable convertible preferred units were convertible into common units at a one-for-one conversion ratio.

Each redeemable convertible preferred unit is automatically convertible into common units (or shares of common stock, if the Company is converted into a corporation), based on the then-effective applicable conversion rate (A) at any time upon the affirmative vote or written consent of (i) the members holding a majority of the redeemable convertible preferred units then outstanding, (ii) the members holding a majority of the Series B redeemable convertible preferred units then outstanding, and (iii) the members holding a majority of the Series B-1 redeemable convertible preferred units then outstanding, or (B) immediately upon the closing of a firmly underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale of common units (or other common securities) with the gross cash proceeds to the Company, before underwriting discounts, commissions and offering expenses, are at least $100.0 million, or (C) the closing of a merger, acquisition or other business combination involving the Company and a publicly traded special purpose acquisition company ("SPAC") or its subsidiary or affiliate in which the surviving public company has available immediately cash of at least $100.0 million in the aggregate greater than the cash on the Company's consolidated balance sheets as of immediately prior to such merger, acquisition or other business combination (including proceeds of a private investment in public equity transaction that is substantially contemporaneous with or conditioned on such merger, acquisition or other business combination, and any redemptions from the SPAC's trust account).

Anti-dilution and other protective provisions

The holders of the redeemable convertible preferred units have proportional anti-dilution protection right for unit splits, unit dividends and similar recapitalizations, subject to certain exclusions, anti-dilution price protection for additional sales of securities by the Company for consideration per unit less than the applicable conversion price per unit of any series of the redeemable convertible preferred units, on a broad-based weighted average basis.

The holders of the redeemable convertible preferred units have certain protective rights. The Company shall not, either directly or by amendment, merger, consolidation or otherwise, without the prior written approval of members holding a majority of the redeemable convertible preferred units then outstanding to alter or change the rights, preferences or privileges of the redeemable convertible preferred units; consummate a liquidation or a deemed liquidation event; change the Company's LLC Agreement; authorize or create any new class or series of units or other equity security; increase or decrease the authorized number of the common units or the redeemable convertible preferred units or any series; redeem, acquire or repurchase any, or make any distribution on, any common units or redeemable convertible preferred units; change the compensation or equity awards granted to executive officers of the Company, unless such transaction is approved by the Board of Managers; increase or decrease the authorized number of managers constituting the Board of Managers and amend other rights or enter into certain transactions.

Liquidation preference

In the event of a liquidation, a deemed liquidation event (including a consolidation, merger or reorganization or a sale, lease, transfer, exclusive irrevocable license or other disposition of all or substantially all of the assets of the Company), dissolution or winding-up of the Company, the funds are distributed first to the members holding the redeemable convertible preferred units in proportion to and to the extent of their unreturned original purchase price per redeemable convertible preferred unit, until each member holding the redeemable convertible preferred units has received cumulative distributions in an amount equal to the unreturned original purchase price for each of such member's redeemable convertible preferred unit. Second, to the members holding common units and the redeemable convertible preferred units pro rata based on the number of units held by each such holder, assuming for this purpose that all the redeemable convertible preferred units have been converted into common units as of the date of such operating distribution or distribution of net proceeds

or assets available for distribution, whether in cash or in other property. Third, the amounts that would otherwise be distributed to any redeemable convertible preferred unit holder pursuant to the liquidation preference on as-converted to common units basis will be reduced by an amount equal to the remaining preferred participation threshold amount for such redeemable convertible preferred unit. The preferred participation threshold amount for a redeemable convertible preferred unit is equal to the original purchase price, reduced by distributions paid.

Distributions preference

Distributions, when determined by the Board of Managers, are payable to the members holding the redeemable convertible preferred units, pro rata in proportion to the liquidation preference amounts in respect of the redeemable convertible preferred units held by such members; thereafter, to the members in proportion to the number of shares held by such members, on as converted basis. No distributions were declared or made from inception and during the years ended December 31, 2021 and 2022.

Redemption

The redeemable convertible preferred units are not redeemable except in the event of certain effected deemed liquidation events, that are not in the Company's control.

12. Common units

As of December 31, 2021 and 2022, the Company was authorized to issue 32,000,000 and 66,000,000 common units, respectively. Each common unit is entitled to cast one vote. The holders of common units are also entitled to receive distributions whenever funds are legally available and when declared by the Company's Board of Managers, subject to prior rights of the holders of the redeemable convertible preferred units. No distributions have been declared from inception to date.

As of December 31, 2021 and 2022, the Company reserved common units for future issuance as follows:

	December 31,	
	2021	2022
Outstanding redeemable convertible preferred units	19,650,632	41,478,621
Outstanding profits interests	5,783,758	7,516,073
Units available for grants under 2019 Equity Incentive Plan	236,886	7,088,092
Total common units reserved for future issuance	25,671,276	56,082,786

Founders and investors common units

In June 2017, Metagenomi Inc. issued 4,687,500 shares of its common stock at a purchase price of $0.0001 per share to its founders and investors for services, which was an estimated fair value determined by the Board of Managers at the issuance date. Pursuant to the terms of the stock purchase agreements, 25% of the shares vested on the first anniversary of the vesting start date and monthly over the next 36 months. Vesting of shares is accelerated upon a change of control event (including an acquisition of the Company by another entity by means of any transaction or series of related transactions, or a sale of all or substantially all of the assets of the Company). The Company has a right to repurchase unvested shares upon termination of services provided by the founders to the Company at the price lower of i) the purchase price or ii) the fair value at the date of

repurchase. In November 2018, in connection with the reorganization, common stock issued by Metagenomi Inc. was exchanged for common units of Metagenomi with the same terms. The estimated fair value of common unit at the modification date was determined to be $0.02 per unit, based on the Company's recent common unit valuation, and the modification expense was immaterial.

In March 2019, the Company issued 1,260,000 common units to an investor for services with a purchase price of $0.02 per unit, which was based on the recent Company's common stock valuation. As long as the investor continues to provide services, 25% of the shares vested immediately and the remainder vested monthly over the next 36 months. Vesting of shares is accelerated upon a change of control event. The Company has a right to repurchase unvested shares upon termination of services provided by the founders to the Company at the price lower of i) the purchase price or ii) the fair value at the date of repurchase.

The Company accounts for issued common units as unit-based compensation to founders and investors as service providers and recognizes unit-based compensation expense of $0.1 million over the vesting period. The Company had 494,689 and 78,750 common units vested during the years ended December 31, 2021 and December 31, 2022, respectively, each having fair value of less than $0.1 million. 78,750 and zero common units were unvested as of December 31, 2021 and 2022, respectively.

The following table provides a summary of common units with vesting conditions activity during the year ended December 31, 2022:

	Number of common units unvested	Weighted-average grant date fair value
Unvested as of January 1, 2022	78,750	$ 0.03
Common Units vested	(78,750)	$ 0.03
Unvested as of December 31, 2022	—	$ —

13. Profits interests plan

The Company grants profits interests under the 2019 Equity Incentive Plan, adopted on March 13, 2019 (the "2019 Plan"). The Company may grant profits interests with a threshold amount, which may be zero, established by the Board of Managers on the date of issuance. Accordingly, such profits interests do not give a holder a share of the proceeds if the Company's assets were sold at fair market value and the proceeds of such disposition were distributed in complete liquidation of the Company immediately after the date of grant but give a holder a right to share in the appreciation in the value of a common unit from the date of receipt to the future, as specifically provided in the LLC Agreement. The 2019 Plan allows for grants of profits interests to the Company's officers, employees, directors and consultants. Profits interests generally vest monthly over four years, with or without one- year cliff vesting in the first year. In the event of a profits interest holder's termination, the unvested portion of such profits interest is automatically forfeited and cancelled without any additional consideration. Additionally, the Company has the right to repurchase the vested portion of such profits interest at its fair market value, which is based on the fair market value of a common unit (as determined by the Board of Managers), less the applicable profits interest threshold amount, at any time during the 12-month period after termination of a profits interest holder's service to the Company.

The number of common units reserved for issuance under the 2019 Plan was 6,020,644 and 14,604,165 at December 31, 2021, and 2022, respectively.

The table below presents a summary of activities and a reconciliation of common units authorized and remaining for grant under the 2019 Plan during the year ended December 31, 2022:

	Units available for grants	Profits interests	Weighted-average threshold amount	Aggregate intrinsic value (in thousands)
Outstanding as of January 1, 2022	236,886	5,783,758	$ 0.27	$ 1,372
Authorized	8,583,521	—	$ —	
Profits interests granted	(2,763,356)	2,763,356	$ 3.20	
Forfeited and expired	1,031,041	(1,031,041)	$ 1.55	
Outstanding as of December 31, 2022	7,088,092	7,516,073	$ 1.17	$ 34,398
Vested and expected to vest	7,088,092	7,516,073	$ 1.17	$ 34,398

The aggregate intrinsic value is calculated as the positive difference between the threshold amount of the profits interests and the fair value of the Company's common unit as of December 31, 2021 and 2022.

During the years ended December 31, 2021 and 2022, the Company granted 3,550,854 and 2,763,356 profits interests with a weighted average grant date fair value of $1.03 and $1.90, respectively. The total fair value of the profits interests vested during the years ended December 31, 2021 and 2022 was $0.2 million and $1.1 million, respectively.

Unit-based compensation expense

The Company estimated the fair value of profits interests on the grant date using the Black-Scholes option-pricing model based on the following assumptions for the years ended December 31, 2021 and 2022:

	Years ended December 31	
	2021	2022
Expected volatility	79.62% — 91.19%	79.57% — 82.60%
Expected dividend yield	0%	0%
Expected term (in years)	2.66 — 6.63	3.51 — 4.00
Risk-free interest rate	0.18% — 0.94%	2.65% — 4.33%
Threshold range	$ 0.34 — $0.51	$ 3.20

Expected volatility—The Company is a private company and lacks company-specific historical and implied volatility information. Therefore, the Company estimates its expected unit's volatility based on the historical volatility of a publicly traded set of peer companies and expect to continue to do so until the Company has adequate historical data regarding the volatility of the Company's traded unit or stock price.

Expected term—The expected term of profits interests has been determined based on the expected time to liquidity and expected vesting term.

Risk-free interest rate—The risk-free interest rate is determined by reference to the U.S. Treasury yield curve in effect at the time of grant of the award for time periods approximately equal to the expected term of the award.

Dividends—Expected dividend yield is zero because the Company does not pay cash dividends on common units and does not expect to pay any cash dividends in the foreseeable future.

The grant date fair value of common units utilized in the Black-Scholes model is determined by the Company's Board of Managers with the assistance of management. The grant date fair value of common units is determined using valuation methodologies which utilizes certain assumptions including probability weighting of expected exit events, volatility, time to liquidation, a risk-free interest rate and an assumption for a discount for lack of marketability. In determining the fair value of the common units, the methodologies used to estimate the enterprise value were performed using methodologies, approaches, and assumptions consistent with the American Institute of Certified Public Accountants Accounting and Valuation Guide, Valuation of Privately-Held-Company Equity Securities Issued as Compensation.

The following table presents the classification of unit -based compensation expense for the years ended December 31, 2021 and 2022 (in thousands):

	Years ended December 31,	
	2021	2022
Research and development expenses	$ 90	$ 754
General and administrative expenses	285	1,208
Total unit-based compensation expense	$375	$1,962

The above unit-based compensation expense related to the following unit-based awards for the years ended December 31, 2021 and 2022 (in thousands):

	Years ended December 31,	
	2021	2022
Profits Interests	$365	$1,960
Common Units	10	2
Total unit-based compensation expense	$375	$1,962

There was $3.3 million and $5.7 million in unrecognized unit-based compensation expense related to the profits interests as of December 31, 2021 and 2022, respectively, that was expected to be recognized over a weighted-average period of 3.81 and 3.03 years, respectively. There was less than $0.1 million unrecognized unit-based compensation expense related to the common units with vesting conditions as of December 31, 2021, that was expected to be recognized over a weighted-average period of 0.2 years. As of December 31, 2022, there was no unrecognized expense related to the common units with vesting conditions.

14. Related party transactions

The Company's former chief business officer was a founder, and a chief executive officer of Affini-T. Affini-T was a related party when the Company exercised significant influence until November 2021. In November 2021, certain common stock shares were forfeited, and the chief business officer resigned from the Company. As of December 31, 2021, Affini-T is no longer a related party of the Company (see Note 5).

Bayer Healthcare LLC ("Bayer") is a significant investor in the Company and has a Board seat. The Company and Bayer entered into a research and development master service agreement in November 2019. Bayer was performing research and development services under the agreement in accordance with the statement of works agreed by the parties. Services under this agreement were completed as of December 31, 2020, and the Company accrued $0.2 million in accrued expenses and other current liabilities as of December 31, 2020. The Company paid $0.2 million to Bayer in February and March 2021 and there were no other services provided by Bayer to the Company during the years ended December 31, 2021 and December 31, 2022.

In connection with Series B and Series B-1 financings, the Company reimbursed certain investors for finance issuance costs that they incurred totaling $0.4 million. As of December 31, 2022, $0.1 million of Series B-1 financing costs reimbursable to investors is recorded in accrued expenses and other current liabilities in the consolidated balance sheets.

15. Income taxes

Metagenomi is treated as a partnership for tax purposes, and thus, is not subject to income taxes. It is the responsibility of the LLC members to report their proportionate share of any taxable income or loss generated by Metagenomi to the appropriate taxing authorities and pay the associated taxes, if any. With respect to the Company's subsidiary, Metagenomi Inc. is a corporation for tax purposes and is subject to income taxes which have been included in the consolidated financial statements. All pre-tax losses have been incurred in the United States.

During the year ended December 31, 2022, income tax expense consisted of the following (in thousands):

Current:	
Federal	$2,569
State	—
Total current tax expense	2,569
Deferred:	
Federal	—
State	—
Total deferred tax expense	—
Total tax expense	$2,569

The Company recognized an income tax provision of $2.6 million for the year ended December 31, 2022 as a result of their taxable income related to an upfront payment received under the Moderna Agreement and capitalization of their research and development expenses under the newly enacted Internal Revenue Code Section 174 ("Section 174"), which became effective on January 1, 2022. Section 174 changed the tax treatment of research and experimentation (R&E) expenditures, which requires the capitalization of R&E expenditures over a period of five years for R&E paid or incurred in the United States and 15 years for R&E paid or incurred outside of the United States.

During the year ended December 31, 2021, the Company had no income tax expense, and all losses were from the U.S.

The effective tax rate of the Company's provision for income taxes differs from the federal statutory rate of 21% for the years ended December 31, 2021 and 2022, is as follows:

	Years ended December 31,	
	2021	2022
Statutory rate	21.00 %	21.00 %
Nontaxable LLC losses	(15.99)%	(0.13)%
State tax rate	1.60 %	9.73 %
Permanent and other adjustments	(0.12)%	(1.31)%
Change in valuation allowance	(6.49)%	(41.02)%
Research credits	0.00 %	5.47 %
Total	0.00 %	(6.26)%

Significant components of the deferred tax assets for federal and state income taxes as of December 31, 2021 and 2022, are as follows (in thousands):

	Years ended December 31,	
	2021	2022
Deferred Tax Assets:		
Net operating loss carry forwards	$ 1,601	$ 655
Research credits	232	1,568
Reserves and accruals	618	1,326
Lease liability	5,226	5,199
Deferred revenue	—	8,465
Capitalized research and development expenses	—	8,901
Total deferred tax assets	7,677	26,114
Deferred Tax Liabilities:		
Property and equipment	(607)	(2,583)
Right-of-use asset	(5,051)	(4,685)
Total gross deferred tax liabilities	(5,658)	(7,268)
Less: Valuation allowance	(2,019)	(18,846)
Net deferred tax assets	$ —	$ —

A valuation allowance is required to be established when it is more likely than not that all or a portion of a deferred tax asset will not be realized. Realization of deferred tax assets is dependent upon future earnings, the timing and amount of which are uncertain. Metagenomi Inc. believes that, based on a number of factors such as the history of operating losses, it is more likely than not that the deferred tax assets will not be fully realized, such that a full valuation allowance has been recorded. The valuation allowance increased by $1.4 million and $16.8 million for the years ended December 31, 2021 and 2022, respectively, primarily due to the increase in deferred revenue and capitalization of research and development expenses under newly enacted Section 174.

As of December 31, 2022, Metagenomi Inc. had $0.02 million and $8.3 million of net operating loss carryforwards for federal and state income tax purposes, respectively. Federal net operating loss carryforwards do not expire. State net operating loss carryforwards begin expiring in 2037.

As of December 31, 2022, Metagenomi Inc. had $0 and $2.8 million of research credit carryforwards for federal and state income tax purposes, respectively. State research credit carryforwards do not expire and can be carried forward indefinitely.

Utilization of some of the federal and state net operating losses and credit carryforwards may be subject to annual limitations due to the change in ownership provisions of the Internal Revenue Code of 1986 (“Internal Revenue Code”) and similar state provisions. The annual limitation may result in the expiration of net operating losses and credits before utilization. As of December 31, 2022, the Company has completed an IRC Section 382 analysis from inception through the year ended December 31, 2022. The Company experienced two ownership changes in August 2019 and January 2022. Net operating losses generated prior to December 31, 2017, of $0.3 million are permanently limited for federal tax purposes. Net federal operating losses generated after December 31, 2017 are not limited as they can be carried forward indefinitely, subject to an 80% income limitation. Net operating losses of $0.1 million are permanently limited for California tax purposes.

Metagenomi Inc. uses the “more likely than not” criterion for recognizing the income tax benefit of uncertain income tax positions and establishing measurement criteria for income tax benefits. Although it is reasonably

possible that certain unrecognized tax benefits may increase or decrease within the next twelve months due to tax examination changes, settlement activities, expirations of statute of limitations, or the impact on recognition and measurement considerations related to the results of published tax cases or other similar activities, Metagenomi Inc. does not anticipate significant changes to unrecognized tax benefits over the next 12 months. During the years ended December 31, 2021 and 2022, no interest or penalties were recognized relating to unrecognized tax benefits. In the event Metagenomi Inc. should need to recognize interest and penalties related to unrecognized income tax liabilities, this amount will be recorded as an accrued liability and an increase to income tax expense.

The changes in the balance of gross unrecognized tax benefits, which excludes interest and penalties, for the years ended December 31, 2021 and 2022, are as follows (in thousands):

	Years ended December 31,	
	2021	2022
Beginning balance	$131	$ 131
Gross increases—tax position in current period	—	1,231
Gross increases—tax position in prior periods	—	426
Reductions for tax positions of prior years	—	(33)
Ending balance	$131	$1,755

Metagenomi Inc. files tax returns in the U.S. and California. Metagenomi Inc. is not currently under examination in any of these jurisdictions and all its tax years remain effectively open to examination due to net operating losses from inception. Metagenomi Inc. recognized $1.0 million of uncertain tax positions as other non-current liabilities and $0.8 million was netted against deferred tax assets.

In accordance with the Tax Cuts and Jobs Act of 2017, research and experimental (R&E) expenses under Internal Revenue Code Section 174 are required to be capitalized beginning in 2022. R&E expenses are required to be amortized over a period of 5 years for domestic expenses and 15 years for foreign expenses.

On August 16, 2022, President Biden signed into law the Inflation Reduction Act of 2022, which includes an Alternative Minimum Tax based on the Adjusted Financial Statement Income of Applicable Corporations. Based on an initial evaluation, the Company does not believe the Inflation Reduction Act will have a material impact on the income tax provision and cash taxes. The Company will continue to monitor the changes in tax laws and regulations to evaluate their potential impact on the business.

16. Net loss per unit

Basic and diluted net loss per unit attributable to common unitholders is calculated as follows (in thousands except share and per share amounts):

	Years ended December 31	
	2021	2022
Numerator:		
Net loss attributable to common members	$ (21,442)	$ (43,593)
Denominator:		
Weighted average common units outstanding	5,947,500	5,947,500
Less: Weighted-average unvested common units subject to repurchase	(256,069)	(8,846)
Weighted average units used to computing basic and diluted net loss per share	5,691,431	5,938,654
Net loss per unit attributable to common unitholders—basic and diluted:	$ (3.77)	$ (7.34)

The following outstanding potentially dilutive securities have been excluded from the calculation of diluted net loss per unit, as their effect is anti-dilutive:

	Years ended December 31,	
	2021	2022
Redeemable convertible preferred units	19,650,632	41,478,621
Profits interests	5,783,758	7,516,073
Unvested common units	78,750	—
Total	25,513,140	48,994,694

17. Employee retirement plan

The Company has a defined contribution plan under Section 401(k) of the Internal Revenue Code (the "401(k) Plan"), covering its employees. Employees may contribute a percentage of their annual compensation to this plan, subject to the maximum allowable amount set by the Internal Revenue Service. The 401(k) Plan provides that the Company matches each participant's contribution at 100% up to the first 5% of the employee's eligible compensation. The Company's contributions to the 401(k) Plan were $0.2 million and $0.6 million for the years ended December 31, 2021 and 2022, respectively.

18. Subsequent events

The Company has reviewed and evaluated subsequent events through August 3, 2023, the date that the consolidated financial statements were available to be issued.

In January 2023, the Company sold an additional 334,754 Series B-1 redeemable convertible preferred units in accordance with the Series B-1 purchase agreement and received gross cash proceeds of $4.7 million.

In March and June 2023, the Company granted 450,860 and 1,530,523 profits interests to officers, employees and consultants with a threshold amount of $5.75 and $7.40, respectively. These profits interests vest over a period of two to four years.

19. Subsequent events (unaudited)

The Company has reviewed and evaluated subsequent events through December 8, 2023, the date that the consolidated financial statements were available to be reissued.

Profits Interests Grants

In September 2023, the Company granted 274,830 profits interests awards to officers, employees and consultants with a threshold amount of $11.84. In July and September 2023, the Company canceled and re-issued 781,312 profits interests awards with thresholds of $7.40 and $11.84. Issued profits interests vest over a period of two to four years.

Amendment to the LLC Agreement

The Company's LLC Agreement was amended on July 31, 2023 to provide for "catch-up" distributions for profits interests once the applicable catch-up threshold amount for such profits interests was met (the "Amendment to the LLC Agreement").

The LLC Agreement provides each profits interest with a distribution threshold amount, which is determined on the date of issuance and represents the amount that would be distributed if, immediately after issuance, the

Company sold all of its assets at fair market value and distributed the net proceeds in liquidation. A profits interest does not participate in Company distributions until an amount equal to its distribution threshold amount has been distributed to other members of the Company with units that either have a lower threshold amount or no threshold amount.

Once the applicable distribution threshold amount has been met for a particular profits interest, such profits interest will participate in Company distributions on a pro rata basis until the catchup threshold amount has been met. Once the catch-up threshold amount has been met, subsequent “catch-up” distributions will be made solely to holders of profits interests until such holders have received an amount equal to the amount such holders would have received had the distribution threshold not existed. Once the profits interest holders have received distributions in an amount equal to what they would have received had the distribution threshold not existed, all subsequent distributions are made on a pro rata basis with common unitholders.

The catch-up threshold amount of $11.84 per unit reflected the estimated fair value of the Company’s common unit as of July 31, 2023, as determined by the Company’s board of managers, with input from management, and considering the Company’s most recently available third-party valuations of common units. The amendment to the LLC Agreement resulted in a change to the fair value of the profits interests and will be accounted for as a modification of the profits interests’ awards.

Ionis Agreement

In November 2023, Ionis selected its third target (“Target 3”) in Wave 1 and the Company agreed to extend the period during which the Company expects Ionis will select its fourth target (“Target 4”) in Wave 1 by an additional three months from the 12-month anniversary of the effective date, as permitted under the arrangement.

Condensed Consolidated Balance Sheets

(in thousands, except units)
(unaudited)

	December 31, 2022	September 30, 2023
Assets		
Current assets:		
Cash and cash equivalents	$ 184,441	$ 101,897
Available-for-sale marketable securities	177,690	191,030
Accounts receivable	—	3,924
Contract assets	1,274	—
Prepaid expenses and other current assets	3,494	3,152
Total current assets	366,899	300,003
Property and equipment, net	16,522	21,213
Long-term investments	7,806	10,676
Operating lease right-of-use assets	16,736	44,475
Other assets	450	4,818
Restricted cash	6,073	5,248
Total assets	$ 414,486	$ 386,433
Liabilities, redeemable convertible preferred units and members' deficit		
Current liabilities:		
Accounts payable	$ 2,011	$ 4,893
Income tax payable	1,536	2,168
Accrued expenses and other current liabilities	8,790	10,799
Current portion of operating lease liabilities	1,515	2,269
Collaboration advance	743	430
Deferred revenue	33,942	48,223
Total current liabilities	48,537	68,782
Non-current portion of operating lease liabilities	17,056	45,938
Deferred revenue, non-current	76,185	36,524
Other non-current liabilities	1,033	3,452
Total liabilities	142,811	154,696
Commitments and contingencies (Note 8)		
Redeemable convertible preferred units: 41,813,375 units authorized as of December 31, 2022 and September 30, 2023; 41,478,621 and 41,813,375 units issued and outstanding as of December 31, 2022 and September 30, 2023, respectively. Liquidation preference $347,335 and $352,044 as of December 31, 2022 and September 30, 2023, respectively	346,103	350,758
Members' deficit:		
Common units: 66,000,000 units authorized as of December 31, 2022 and September 30, 2023; 5,947,500 units issued and outstanding as of December 31, 2022 and September 30, 2023	26	26
Profits interests: 14,604,165 units authorized as of December 31, 2022 and September 30, 2023; 7,516,073 and 9,556,687 units issued and outstanding as of December 31, 2022 and September 30, 2023, respectively	2,509	6,962
Accumulated other comprehensive loss	(274)	(359)
Accumulated deficit	(76,689)	(125,650)
Total members' deficit	(74,428)	(119,021)
Total liabilities, redeemable convertible preferred units and members' deficit	$ 414,486	$ 386,433

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

Condensed Consolidated Statements of Operations and Comprehensive Loss

(in thousands, except units and per unit data)
(unaudited)

	Nine Months Ended September 30,	
	2022	**2023**
Collaboration revenue	$ 11,605	$ 32,357
Operating expenses:		
Research and development	28,082	69,648
General and administrative	12,397	21,005
Total operating expenses	40,479	90,653
Loss from operations	(28,874)	(58,296)
Other income (expense)		
Interest expense	(98)	—
Interest income	1,489	11,836
Change in fair value of long-term investments	94	2,870
Other income (expense), net	146	(70)
Total other income, net	1,631	14,636
Net loss before provision for income taxes	(27,243)	(43,660)
Provision for income taxes	(1,723)	(5,301)
Net loss	$ (28,966)	$ (48,961)
Other comprehensive loss:		
Unrealized loss on available-for-sale marketable securities, net	(301)	(85)
Other comprehensive loss	$ (29,267)	$ (49,046)
Net loss per unit attributable to common unitholders, basic and diluted	$ (4.88)	$ (8.23)
Weighted average common units outstanding, basic and diluted	5,935,673	5,947,500

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

Condensed Consolidated Statements of Redeemable Convertible Preferred Units and Members' Deficit

(in thousands, except units)
(unaudited)

	Redeemable Convertible Preferred Units		Common Units		Profits Interests		Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Members' Deficit
	Units	Amount	Units	Amount	Units	Amount			
BALANCE—January 1, 2022	19,650,632	$ 76,495	5,947,500	$ 26	5,783,758	$ 547	$ (21)	$ (33,096)	$ (32,544)
Issuance of Series B redeemable convertible preferred units for cash, net of issuance costs of $697	12,446,876	144,304	—	—	—	—	—	—	—
Issuance of Series B redeemable convertible preferred units upon conversion of convertible note and accrued interest	2,607,387	30,374	—	—	—	—	—	—	—
Issuance of profits interests	—	—	—	—	2,244,356	—			—
Cancellation and forfeiture of profits interests	—	—	—	—	(942,677)	—	—	—	—
Unit-based compensation expense	—	—	—	—	—	1,391	—	—	1,391
Other comprehensive loss	—	—	—	—	—	—	(301)		(301)
Net loss	—	—	—	—	—	—	—	(28,966)	(28,966)
BALANCE—September 30, 2022	34,704,895	$ 251,173	5,947,500	$ 26	7,085,437	$ 1,938	$ (322)	$ (62,062)	$ (60,420)
BALANCE—January 1, 2023	41,478,621	$ 346,103	5,947,500	$ 26	7,516,073	$ 2,509	$ (274)	(76,689)	$ (74,428)
Issuance of Series B-1 redeemable convertible preferred units, net of issuance costs of $54	334,754	4,655	—	—	—	—	—	—	—
Issuance of profits interests	—	—	—	—	2,267,813	—	—	—	—
Cancellation and forfeiture of profits interests	—	—	—	—	(227,199)	—	—	—	—
Unit-based compensation expense	—	—	—	—	—	4,453	—	—	4,453
Other comprehensive loss	—	—	—	—	—	—	(85)	—	(85)
Net loss	—	—	—	—	—	—	—	(48,961)	(48,961)
BALANCE—September 30, 2023	41,813,375	$ 350,758	5,947,500	$ 26	9,556,687	$ 6,962	$ (359)	$ (125,650)	$ (119,021)

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

Condensed Consolidated Statements of Cash Flows

(in thousands)
(unaudited)

	Nine Months Ended September 30,	
	2022	2023
Cash flows from operating activities		
Net loss	$ (28,966)	$ (48,961)
Adjustments to reconcile net loss to net cash used in operating activities		
Unit-based compensation expense	1,391	4,453
Depreciation and amortization	1,014	3,006
Loss on fixed assets write-off	269	9
Non-cash lease expense	967	3,107
Amortization of premiums and discounts on available-for-sale marketable securities	(216)	(6,852)
Amortization of non-cash collaboration revenue	(265)	(654)
Non-cash interest expense	98	—
Change in fair value of long-term investments	(94)	(2,870)
Changes in operating assets and liabilities:		
Accounts receivable	—	(3,924)
Contract assets	—	1,274
Prepaid expenses and other current assets	(1,398)	352
Other assets	(13)	37
Accounts payable	(192)	2,439
Income tax payable	1,029	632
Deferred revenue and collaboration advance	(14,330)	(25,039)
Accrued expenses and other current liabilities	2,050	727
Operating lease liabilities	(45)	(972)
Other non-current liabilities	692	2,419
Net cash used in operating activities	(38,009)	(70,817)
Cash flows from investing activities		
Purchases of property and equipment	(10,469)	(8,077)
Purchases of available-for-sale marketable securities	(136,634)	(168,977)
Maturities and sales of available-for-sale marketable securities	63,777	162,156
Net cash used in investing activities	(83,326)	(14,898)
Cash flows from financing activities		
Payments of initial public offering costs	—	(1,949)
Proceeds from issuance of redeemable convertible preferred units, net of issuance costs	144,304	4,295
Net cash provided by financing activities	144,304	2,346
Net change in cash, cash equivalents and restricted cash	22,969	(83,369)
Cash, cash equivalents and restricted cash at the beginning of the period	43,396	190,514
Cash, cash equivalents and restricted cash at the end of the period	$ 66,365	$ 107,145
Reconciliation of cash, cash equivalents and restricted cash		
Cash and cash equivalents	$ 62,265	$ 101,897
Restricted cash	4,100	5,248
Cash, cash equivalents and restricted cash at the end of the period	$ 66,365	$ 107,145

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements

Condensed Consolidated Statements of Cash Flows (continued)

(in thousands)
(unaudited)

	Nine Months Ended September 30,	
	2022	**2023**
Supplemental cash flow information		
Issuance of Series B redeemable convertible preferred units upon conversion of convertible promissory note and accrued interest	$30,374	$ —
Common shares of Affini-T received for collaboration revenue	$ 1,295	$ —
Purchases of property and equipment included in accounts payable and accrued expenses and other current liabilities	$ 1,470	$ 876
Operating lease right-of-use assets obtained in exchange for new lease liabilities	$ —	$ 30,608
Deferred initial public offering costs included in accounts payable and accrued expenses and other current liabilities	$ —	$ 2,456

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

Notes to the Unaudited Condensed Consolidated Financial Statements

1. Description of business, organization and liquidity

Organization and business

Metagenomi Technologies, LLC ("Metagenomi"), together with its wholly owned subsidiary Metagenomi, Inc. ("Metagenomi Inc.") (together, the "Company") is a gene editing biotechnology company developing therapeutics by leveraging a toolbox of next-generation gene editing systems to accurately edit DNA.

Liquidity and going concern

The Company has incurred significant losses from operations since its inception. During the nine months ended September 30, 2022 and 2023, the Company incurred net losses of $29.0 million and $49.0 million, respectively. As of September 30, 2023, the Company had an accumulated deficit of $125.7 million.

The Company has historically financed its operations primarily through issuance of redeemable convertible preferred units, convertible promissory notes and its collaboration agreements with Moderna, Affini-T and Ionis (see Note 7). The Company expects to continue to incur substantial losses, and its ability to achieve and sustain profitability will depend on the successful development, approval, and commercialization of any product candidates it may develop, and on the achievement of sufficient revenue to support its cost structure. The Company may never achieve profitability and, unless and until it does, it will need to continue to raise additional capital. Management expects that existing cash, cash equivalents and available-for-sale marketable securities of $292.9 million as of September 30, 2023, will be sufficient to fund its current operating plan for at least the next 12 months from the date of issuance of these condensed consolidated financial statements.

2. Summary of significant accounting policies

Basis of presentation

These condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") and pursuant to the rules and regulations of the Securities and Exchanges Commission ("SEC") regarding interim financial reporting. The accompanying condensed consolidated financial statements include the accounts of Metagenomi and Metagenomi Inc., a wholly owned subsidiary. All intercompany balances and transactions have been eliminated in consolidation.

The interim condensed consolidated balance sheet as of September 30, 2023, and the condensed consolidated statements of operations and comprehensive loss, and cash flows for the nine months ended September 30, 2022 and 2023 are unaudited. The unaudited interim condensed consolidated financial statements have been prepared on the same basis as the annual consolidated financial statements and reflect, in the opinion of management, all adjustments of a normal and recurring nature that are necessary for the fair statement of the Company's financial position as of September 30, 2023 and its results of operations and cash flows for the nine months ended September 30, 2022 and 2023. The financial data and the other financial information disclosed in these notes to the condensed consolidated financial statements related to the nine-month periods are also unaudited. The results of operations for the nine months ended September 30, 2023 are not necessarily indicative of the results to be expected for the year ending December 31, 2023, or for any other future annual or interim period. The condensed consolidated balance sheet as of December 31, 2022, included herein was derived from the audited consolidated financial statements as of that date. Certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. GAAP have been

Notes to the Unaudited Condensed Consolidated Financial Statements

condensed or omitted from these interim condensed consolidated financial statements. These unaudited condensed financial statements should be read in conjunction with the Company's audited consolidated financial statements included elsewhere in this prospectus.

Any reference in these notes to applicable guidance is meant to refer to the authoritative GAAP as found in the Accounting Standards Codification ("ASC") and Accounting Standards Updates ("ASU") of the Financial Accounting Standards Board ("FASB").

Use of estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of expenses during the reporting period. On an ongoing basis, the Company evaluates estimates and assumptions, including but not limited to those related to revenue recognition under its collaboration agreements, the fair value of its common and redeemable convertible preferred units, the fair value of derivative liabilities, unit-based compensation expense, accruals for research and development expenses, the fair value of long-term investments, the valuation of deferred tax assets and uncertain income tax positions. Management bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ materially from those estimates.

Risks and uncertainties

The Company is subject to certain risks and uncertainties, including, but not limited to, changes in any of the following areas that the Company believes could have a material adverse effect on the future financial position or results of operations: the Company's ability to advance the development of its next generation gene-editing platform, timing and ability to advance any product candidates it may develop into and through pre-clinical and clinical development; costs and timelines associated with the manufacturing of clinical supplies of any product candidates the Company may develop; regulatory approval, market acceptance of, and reimbursement for any product candidates the Company may develop; performance of third-party vendors; competition from pharmaceutical or other gene-editing companies with greater financial resources or expertise; protection of intellectual property; litigation or claims against the Company based on intellectual property or other factors; and its ability to attract and retain employees necessary to support its growth.

The Company's business and operations may be affected by worldwide economic conditions, which may continue to be impacted by global macroeconomic challenges such as the effects of the ongoing geopolitical conflict in Ukraine and the Israel-Hamas war, tensions in U.S.-China relations, the COVID-19 pandemic, uncertainty in the markets, including disruptions in the banking industry, and inflationary trends. Fiscal year 2022 was marked by significant market uncertainty, increasing inflationary pressures. These market dynamics may continue into 2023 and these and similar adverse market conditions may negatively impact the Company's operations and financial position.

Concentration of credit risk

Cash and cash equivalents, available-for-sale marketable securities and preferred and common stock shares related to our investment in Affini-T (Note 5) are financial instruments that potentially subject the Company to

Notes to the Unaudited Condensed Consolidated Financial Statements

concentrations of credit risk. As of December 31, 2022 and September 30, 2023, cash consists of cash deposited with three financial institutions, and account balances exceed federally insured limits.

On March 10, 2023, SVB was closed by the California Department of Financial Protection and Innovation, which appointed the Federal Deposit Insurance Corporation ("FDIC") as receiver. On March 12, 2023 the FDIC transferred all deposits, both insured and uninsured, and substantially all assets from the former SVB to a newly created, full-service FDIC-operated "bridge bank", Silicon Valley Bridge Bank, N.A. ("SVBB") and the FDIC, Treasury Department, and Federal Reserve announced that all deposits will be fully protected, whether or not they had been insured by the FDIC. On March 27, 2023, First-Citizens Bank & Trust Company assumed all of SVBB's customer deposits and certain other liabilities and acquired substantially all of SVBB's loans and certain other assets from the FDIC. As of September 30, 2023, the Company's held cash and cash equivalents of $6.7 million at SVB. As of the date of the issuance of these condensed consolidated financial statements, the Company has full access to and control over all its cash, cash equivalents and available-for-sale marketable securities.

The Company also has investments in money market funds, U.S. Treasuries, corporate debt obligations, commercial paper, government agency obligations and asset-backed securities, which can be subject to certain credit risks. The Company mitigates the risks by investing in high-grade instruments, limiting its exposure to any one issuer and monitoring the ongoing creditworthiness of the financial institutions and issuers. The Company has not experienced any losses on its financial instruments.

Concentration of collaboration revenue, accounts receivable and contract assets

The following table summarizes the percentages of collaboration revenues, accounts receivable and contract assets from each of the Company's customers that individually accounted for 10% or more of its collaboration revenues, accounts receivable and contract assets:

	Collaboration revenue	
	Nine months ended September 30,	
	2022	2023
Customer A	92%	44%
Customer B	*	12%
Customer C	*	44%
	92%	100%

	Contract assets	
	December 31, 2022	September 30, 2023
Customer B	100%	*
	100%	*

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	Accounts receivable	
	December 31, 2022	September 30, 2023
Customer A	*	38%
Customer B	*	62%
	*	**100%**

* *the customer did not account for 10% or more of the Company's collaboration revenues, accounts receivable or contract assets during the respective fiscal period*

The Company reviews its accounts receivable and contract assets for impairment and credit loss allowance. No impairment or credit loss allowance was recorded as of December 31, 2022 and September 30, 2023.

Deferred finance issuance costs

Deferred finance issuance costs, consisting of legal fees relating to in-process equity financings and initial public offering are capitalized. The deferred finance issuance costs will be offset against offering proceeds upon the completion of the financing or the offering. In the event the financing or the offering is terminated or delayed, deferred finance issuance costs will be expensed immediately as a charge to general and administrative expenses in the condensed consolidated statements of operations and comprehensive loss. The Company had no deferred finance issuance costs capitalized and $4.4 million of deferred finance issuance costs as of December 31, 2022 and September 30, 2023, respectively, included in other assets in the condensed consolidated balance sheets.

Recently issued accounting pronouncements

The Company noted no recently issued accounting pronouncements that will impact its condensed consolidated financial statements and were not adopted by the Company. No new accounting pronouncements were adopted during the nine months ended September 30, 2023.

3. Fair value measurements

Assets and liabilities recorded at fair value on a recurring basis in the condensed consolidated balance sheets, are categorized based upon the level of judgment associated with inputs used to measure their fair values. The accounting guidance for fair value provides a framework for measuring fair value and requires certain disclosures about how fair value is determined. The accounting guidance establishes a three-level valuation hierarchy that prioritizes the inputs to valuation techniques used to measure fair value based upon whether such inputs are observable or unobservable. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect market assumptions made by the reporting entity. The three-level hierarchy for the inputs to valuation techniques is briefly summarized as follows:

Level 1 — Inputs are unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date;

Level 2 — Inputs are observable, unadjusted quoted prices in active markets for similar assets or liabilities, unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the related assets or liabilities; and

Notes to the Unaudited Condensed Consolidated Financial Statements

Level 3 — Unobservable inputs that are significant to the measurement of the fair value of the assets or liabilities that are supported by little or no market data.

Assets and liabilities measured at fair value are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. An assessment of the significance of a particular input to the fair value measurement in its entirety requires management to make judgments and consider factors specific to the asset or liability. Changes in the ability to observe valuation inputs may result in a reclassification of levels of certain securities within the fair value hierarchy. The Company recognizes transfers into and out of levels within the fair value hierarchy in the period in which the actual event or change in circumstances that caused the transfer occurs.

The Company's financial instruments measured at fair value on a recurring basis consist of Level 1, Level 2, and Level 3 financial instruments. Usually, marketable securities are considered Level 2 when their fair values are determined using inputs that are observable in the market or can be derived principally from or corroborated by observable market data such as pricing for similar securities, recently executed transactions, cash flow models with yield curves, and benchmark securities. In addition, Level 2 financial instruments are valued using comparisons to like-kind financial instruments and models that use readily observable market data as their basis. U.S. Government bonds, corporate debt obligations, commercial paper, government agency obligations and asset-backed securities are valued primarily using market prices of comparable securities, bid/ask quotes, interest rate yields and prepayment spreads and are included in Level 2.

Financial assets and liabilities are considered Level 3 when their fair values are determined using pricing models, discounted cash flow methodologies, or similar techniques, and at least one significant model assumption or input is unobservable. The Company's investments in preferred stock and common stock shares of Affini-T Therapeutics Inc. ("Affini-T") (see Note 5) are Level 3 financial assets.

The following table summarizes the estimated fair value of the financial instruments that were measured at fair value on a recurring basis by level within the fair value hierarchy as of December 31, 2022 (in thousands):

	December 31, 2022			
	Total	Level 1	Level 2	Level 3
Assets:				
Money market funds (included in cash and cash equivalents)	$ 182,441	$ 182,441	$ —	$ —
U.S. Treasury bills(1)	14,821	—	14,821	—
U.S. Government bonds	14,651	—	14,651	—
Government agency obligations	22,468	—	22,468	—
Corporate debt obligations	25,900	—	25,900	—
Commercial paper	88,447	—	88,447	—
Asset-backed securities	11,403	—	11,403	—
Long-term investments (Note 5)	5,651	—	—	5,651
Total fair value of assets	$ 365,782	$ 182,441	$ 177,690	$ 5,651

(1) Certain prior period amounts have been reclassified to conform to the current period presentation

Notes to the Unaudited Condensed Consolidated Financial Statements

The following table summarizes the estimated fair value of the financial instruments that were measured at fair value on a recurring basis by level within the fair value hierarchy as of September 30, 2023 (in thousands):

	September 30, 2023			
	Total	Level 1	Level 2	Level 3
Assets:				
Money market funds (included in cash and cash equivalents)	$ 95,753	$95,753	$ —	$ —
U.S. Treasury bills	50,622	—	50,622	—
U.S. Government bonds	2,970	—	2,970	—
Government agency obligations	44,615	—	44,615	—
Corporate debt obligations	22,812	—	22,812	—
Commercial paper	63,263	—	63,263	—
Asset-backed securities	3,302	—	3,302	—
Foreign debt securities	3,446	—	3,446	—
Long-term investments (Note 5)	8,521	—	—	8,521
Total fair value of assets	$295,304	$95,753	$191,030	$8,521

In addition, restricted cash of $6.1 million and $5.2 million as of December 31, 2022 and September 30, 2023, respectively, collateralized by the Company's cash equivalents, are financial assets measured at fair value and are Level 1 financial instruments under the fair value hierarchy.

The Company's investments in shares of Affini-T common stock and preferred stock are accounted at fair value and are Level 3 investments. The fair value is estimated based on information available to management including recent financing transactions, capitalization and rights and preferences of outstanding securities and is based on option-pricing model. The estimated fair value of the Company's investment in Affini-T was $5.7 million and $8.5 million as of December 31, 2022 and September 30, 2023, respectively.

The following table sets forth a summary of the changes in the fair value of the Company's Level 3 financial assets (in thousands):

	2022	2023
Fair value as of January 1	$4,262	$5,651
Change in fair value included in other income (expense)	94	2,870
Fair value of investment received as collaboration consideration (Note 7)	1,295	—
Fair value as of September 30	$5,651	$8,521

There were no transfers within the fair value hierarchy during the nine months ended September 30, 2022 and 2023.

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4. Available-for-sale marketable securities

The following table summarizes the amortized cost, unrealized gains (losses) and estimated fair value of the available-for-sale marketable securities as of December 31, 2022 (in thousands):

	Amortized cost	Unrealized gains	Unrealized losses	Estimated fair value
Money market funds	$ 182,441	$ —	$ —	$ 182,441
U.S. Treasury bills	14,818	3	—	14,821
U.S. Government bonds	14,720	—	(69)	14,651
Government agency obligations	22,431	41	(4)	22,468
Corporate debt obligations	26,041	10	(151)	25,900
Commercial paper	88,447	—	—	88,447
Asset-backed securities	11,508	—	(105)	11,403
Total	360,406	54	(329)	360,131
Less: amounts classified as cash equivalents	(182,441)	—	—	(182,441)
Total available-for-sale marketable securities	$ 177,965	$ 54	$ (329)	$ 177,690

The following table summarizes the amortized cost, unrealized gains (losses) and estimated fair value of the available-for-sale marketable securities as of September 30, 2023 (in thousands):

	Amortized cost	Unrealized gains	Unrealized losses	Estimated fair value
Money market funds	$ 95,753	$ —	$ —	$ 95,753
U.S. Treasury bills	50,630	1	(9)	50,622
U.S. Government bonds	3,007	—	(37)	2,970
Government agency obligations	44,732	—	(117)	44,615
Corporate debt obligations	22,906	—	(94)	22,812
Commercial paper	63,333	1	(71)	63,263
Asset-backed securities	3,319	—	(17)	3,302
Foreign debt securities	3,462	—	(16)	3,446
Total	287,142	2	(361)	286,783
Less: amounts classified as cash equivalents	(95,753)	—	—	(95,753)
Total available-for-sale marketable securities	$ 191,389	$ 2	$ (361)	$ 191,030

As of December 31, 2022 and September 30, 2023, no significant facts or circumstances were present to indicate a deterioration in the creditworthiness of the issuers of the available-for-sale securities, and the Company has no requirement or intention to sell these securities before maturity or recovery of their amortized cost basis. The Company considered the current and expected future economic and market conditions and determined that its investments were not significantly impacted. For all securities with a fair value less than its amortized cost basis, the Company determined the decline in fair value below amortized cost basis to be immaterial and non-credit related, and therefore no allowance for losses has been recorded. During the nine months ended September 30, 2022 and 2023, the Company did not recognize any impairment losses on its investments.

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The Company's policy is to exclude the applicable accrued interest from both the fair value and the amortized cost basis of its available-for-sale securities for purposes of identifying and measuring an impairment. The Company presents accrued interest receivable related to the available-for-sale securities in prepaid expenses and other current assets, separate from available-for-sale marketable securities in the condensed consolidated balance sheets. As of December 31, 2022 and September 30, 2023, accrued interest receivable was $0.3 million and $0.7 million, respectively. The Company's accounting policy is to not measure an allowance for credit losses for accrued interest receivable and to write-off any uncollectible accrued interest receivable as a reversal of interest income in a timely manner, which it considers to be in the period in which the Company determines the accrued interest will not be collected. The Company has not written off any accrued interest receivable for the nine months ended September 30, 2022 and 2023.

The amortized cost and fair value of available-for-sale marketable securities by contractual maturity were as follows as of December 31, 2022 (in thousands):

	Amortized cost	Estimated fair value
Maturing within one year	$ 163,259	$ 163,030
Maturing in one to five years	14,706	14,660
Total available-for-sale marketable securities	$ 177,965	$ 177,690

The amortized cost and fair value of available-for-sale marketable securities by contractual maturity were as follows as of September 30, 2023 (in thousands):

	Amortized cost	Estimated fair value
Maturing within one year	$ 187,332	$ 187,014
Maturing in one to five years	4,057	4,016
Total available-for-sale marketable securities	$ 191,389	$ 191,030

5. Long-term investments

Affini-T investment

As of December 31, 2022 and September 30, 2023, the Company had investments in shares of preferred stock and common stock of Affini-T. The Company performed a VIE analysis and concluded that it was not a primary beneficiary of Affini-T as of December 31, 2022 and September 30, 2023. The Company is using the fair value method to account for its investments in Affini-T with changes in fair value recorded to the condensed consolidated statements of operations and other comprehensive loss (see Note 3).

As of December 31, 2022, the fair value of common stock shares was estimated by management, considering the most recent third-party valuation, and the fair value of preferred stock shares was estimated based on recent sales of similar preferred stock to another investor for cash. As of June 30, 2023, the fair values of common stock and preferred stock shares were estimated by management using an option-pricing valuation model and recent financing transactions at Affini-T. The Company noted no changes in estimated fair value of Affini-T preferred and common stock from June 30, 2023 to September 30, 2023. The Company recognized changes in fair value of $0.1 million and of $2.9 million for the nine months ended September 30, 2022 and 2023, respectively.

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No impairment loss was recognized on the Company's investment in Affini-T as of December 31, 2022 or September 30, 2023.

ViTToria investment

As of December 31, 2022 and September 30, 2023, the Company had investment in shares of preferred stock of ViTToria Biotherapeutics, Inc. ("Vittoria"), a private biotechnology company. The Company accounts for its investment in Vittoria using the measurement alternative method. As of December 31, 2022 and September 30, 2023, the carrying value of Vittoria's investment was $2.2 million and no impairment was recognized.

6. Condensed consolidated balance sheets components

Property and equipment, net consists of the following (in thousands):

	Useful life	December 31, 2022	September 30, 2023
Laboratory equipment	5	$ 13,455	$ 20,239
Leasehold improvements	lesser of useful life or the lease term	3,531	3,810
Furniture and fixtures	3-5	328	374
Computers and related equipment	3-5	54	602
Construction in progress		1,402	1,422
Total property and equipment		18,770	26,447
Less: Accumulated depreciation and amortization		(2,248)	(5,234)
Total property and equipment, net		$ 16,522	$ 21,213

Depreciation and amortization expense was $1.0 million and $3.0 million for the nine months ended September 30, 2022 and 2023, respectively.

Other assets consist of the following (in thousands):

	December 31, 2022	September 30, 2023
Operating lease deposit	$ 237	$ 238
Long-term prepaid services	213	175
Deferred finance issuance costs	—	4,405
Total other assets	$ 450	$ 4,818

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Accrued expenses and other current liabilities consist of the following (in thousands):

	December 31, 2022	September 30, 2023
Accrued personnel related expenses	$ 4,819	$ 4,908
Accrued legal and professional services	1,200	2,985
Accrued purchases of property and equipment	896	544
Accrued research and development expenses	1,684	1,954
Other accrued liabilities	191	408
Total accrued expenses and other current liabilities	$ 8,790	$ 10,799

7. Significant agreements

Moderna strategic collaboration and license agreement

Terms of the agreement

On October 29, 2021, the effective date, the Company entered into a Strategic Collaboration and License Agreement (the "Moderna Agreement") with ModernaTX, Inc. ("Moderna"). The parties will collaborate on the research and development of in-vivo genome editing therapies directed at certain targets and the commercialization of such genome editing therapies. The collaboration provides Moderna with exclusive access to the Company's technology platform during the research period in (1) the field of in vivo gene editing technology for a therapeutic, ameliorative or prophylactic application by way of knock-out through InDel formation or base editing or insertion of an exogenous DNA template (such field, "DT Field") and (2) the field of in vivo gene editing technology for a therapeutic, ameliorative or prophylactic application outside the use of (a) DNA donor templates and (b) no exogenous template at all but including (c) correction by base editing (such field, "RT Field"). The parties formed a joint steering committee, a joint research subcommittee and a joint patent subcommittee to oversee the collaboration activities.

Under the terms of the Moderna Agreement, the parties will collaborate on one or more programs in the RT Field (the "Moderna RT program") and two programs in the DT Field (the "Moderna DT program" and the "DT Co-Co program").

With respect to the Moderna RT and Moderna DT programs, the parties will collaborate on the research and development of product candidates under the approved research plans. The initial research term of the Moderna RT program is four years, which may be extended by Moderna for an additional three years upon written notice and a payment of extension fees. The initial research term of the Moderna DT program is four years. The Company granted to Moderna an option to obtain an exclusive license to develop, manufacture and commercialize up to ten Moderna RT program candidates and up to two Moderna DT program candidates at any time during the research term and prior to filing of an investigational new drug ("IND") application with the Food and Drug Administration ("FDA") or any similar application filed with a regulatory authority in a country other than the United States ("U.S."), subject to Moderna's payment of an option exercise fee of $10.0 million per target.

With respect to the DT Co-Co program, the parties will work together on the co-development and commercialization of products and share costs and profits equally. The Company maintains commercialization rights in the U.S. (subject to Moderna's right to appoint up to 50% of the U.S. sales force for the DT Co-Co program), while Moderna maintains these rights in countries other than the U.S. The initial research term for

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the DT Co-Co program is four years, and each party has a right to opt-out of the DT Co-Co program at any time, at which point the other party has the right to solely continue the development and commercialization activities. If there is no development candidate nomination by the end of the initial research term, the DT Co-Co program will expire, unless the parties have mutually agreed to continue the program.

During the year ended December 31, 2021, the Company received a non-refundable upfront payment of $40.0 million and a $5.0 million payment for the first year of research costs. Concurrent with the Moderna Collaboration Agreement, Moderna also provided $30.0 million in cash in the form of a convertible promissory note pursuant to a convertible promissory note agreement dated October 29, 2021 (the "Moderna Convertible Promissory Note Agreement"). The convertible promissory note was converted into shares of Series B redeemable convertible preferred units in January 2022 (see Note 9). Moderna will reimburse the Company up to $5.0 million in annual research and development costs related to the Moderna DT and Moderna RT programs, or up to the agreed amount of expenses per the budget. As of September 30, 2023, the Company has received a total of $49.6 million under the Moderna Agreement, not including cost-sharing payments under the DT Co-Co program.

For the Moderna RT and Moderna DT programs, the Company is eligible to receive (i) technology milestone fees related to the achievement of certain preclinical research objectives, of up to $75.0 million, (ii) development and regulatory milestones of up to $100.0 million per target, (iii) sales milestones of up to $200.0 million per target and (iv) royalties ranging from a mid-single digit to a low-teens percentage of annual net sales of a licensed product. Any profits and losses from the co-development and commercialization of the DT Co-Co program are shared equally between the Company and Moderna. With respect to the DT Co-Co program for which the opt-out party has exercised its opt-out right, the continuing party will pay to the opt-out party, certain development, regulatory and sales milestone payments that will not exceed an aggregate $239.0 million per DT Co-Co target, and opt-out royalties ranging from a high-single digit to a low-teens percentage of annual net sales of a licensed product.

The term of the Moderna Agreement will continue on a licensed product-by-licensed product and country-by-country basis, until the expiration of the applicable royalty term. The royalty term commences on the first commercial sale of a licensed product and terminates on the latest of: (a) the expiration or abandonment of the last valid claim of a patent within the licensed Moderna DT or RT technology; (b) 10 years after the first commercial sale of a licensed product; and (c) expiration of the regulatory exclusivity. Upon the expiration of the term of a licensed product in the Moderna DT or Moderna RT program, the licenses granted to Moderna will survive and become perpetual, fully paid and royalty-free. Each party may terminate the Moderna Agreement on a program-by-program basis upon written notice to the other party for an uncured material breach or insolvency. The Company may terminate the Moderna Agreement upon written notice to Moderna for a patent challenge. Additionally, Moderna may terminate the agreement at its convenience with respect to Moderna DT or Moderna RT programs for any reason upon at least: (a) 60 days' prior written notice if a first commercial sale has not occurred for the products in such program, or (b) 180 days' prior written notice if a first commercial sale of a product in such program has occurred.

Accounting analysis and revenue recognition

The Company concluded that the Moderna DT and Moderna RT programs are in the scope of ASC 606. The Company determined that the licenses granted to Moderna, and its participation in the joint steering committee are not capable of being distinct from the preclinical research and development services and therefore concluded that there are two performance obligations: (1) the Moderna RT program and (2) the Moderna DT

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program. The Company also concluded that the option to obtain an exclusive license and options to extend Moderna RT program term do not include significant incremental discounts, and as such, the options do not provide material rights.

The Company concluded the DT Co-Co program research activities are within the scope of ASC 808, as the Company and Moderna are both active participants in the research, development and commercialization activities, are exposed to significant risks and rewards that are dependent on the success of the DT Co-Co program activities and share costs and profits equally. The Company determined that the guidance in ASC 730, *Research and Development*, was appropriate to apply to the DT Co-Co program research activities by analogy, based on the nature of the cost sharing provisions of the agreement. The Company concluded that DT Co-Co program is one unit of accounting, as the co-exclusive license is not distinct from the research and development and the participation in joint steering committee activities. The Company recognizes payments to or from Moderna related to the DT Co-Co program cost sharing research activities as an increase to or reduction of research and development expenses, respectively.

The Company concluded that the Moderna Collaboration Agreement and the Moderna Convertible Promissory Note Agreement should be combined and treated as a single arrangement for accounting purposes as the agreements were entered into contemporaneously and in contemplation of one another. The Company estimated the contract consideration to be $90.0 million, which consisted of: 1) the non-refundable upfront collaboration payment of $40.0 million received in 2021, 2) $30.0 million in cash received in 2021 in exchange for the convertible promissory note and 3) the estimated cost reimbursements for Moderna DT and Moderna RT programs of $20.0 million. The Company constrained future milestones, as it assessed that it is probable that the inclusion of such variable consideration could result in a significant reversal of cumulative revenue in future periods. During the year ended December 31, 2021, the Company recorded $30.0 million of the contract consideration for the convertible promissory note based on the fair value and allocated the transaction price of $60.0 million to each of the following programs on a relative standalone selling price basis: 1) $49.5 million to the Moderna RT program, 2) $5.5 million to the Moderna DT program and 3) $5.0 million to the DT Co-Co program.

The variable consideration is reevaluated at each reporting period and as changes in circumstances occur. The Company recognizes revenue for each of the Moderna DT and Moderna RT programs as collaboration revenue based on the measure of progress using an estimated cost-based input method each reporting period. The Company also amortizes the allocation consideration for the DT Co-Co program of $5.0 million as a credit to research and development expenses during the discovery and lead optimization phases for the DT Co-Co program.

The Company recognized collaboration revenue of $10.7 million and $14.2 million in the condensed consolidated statements of operations and comprehensive loss for the nine months ended September 30, 2022 and 2023, respectively. As of September 30, 2023, the Company recorded $1.5 million in accounts receivable on the condensed consolidated balance sheet, related to services performed. As of December 31, 2022 and September 30, 2023, deferred revenue related to the Moderna Agreement was $30.2 million and $17.2 million, respectively. Collaboration revenue recognized during the nine months ended September 30, 2022 and 2023 included $10.7 million and $14.2 million that was included in deferred revenue as of December 31, 2021 and 2022, respectively. The value of the transaction price allocated to the remaining unsatisfied portion of the performance obligations was approximately $27.8 million as of September 30, 2023, which the Company expects to recognize as revenue over the next two-to-three years.

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The Company recognized $0.5 million and $2.7 million in credits to research and development expenses related to cost sharing allocation and amortization of the collaboration advance, respectively, within research and development expenses in the condensed consolidated statement of operations and comprehensive loss during the nine months ended September 30, 2022. The Company recognized $0.3 million and $0.5 million in credits to research and development expenses related to cost sharing allocation and amortization of the collaboration advance during the nine months ended September 30, 2023, respectively. As of December 31, 2022, the collaboration advance balance was $1.1 million, partially offset by the cost-sharing receivable balance of $0.4 million, which was presented as a collaboration advance on the Company's condensed consolidated balance sheet. As of September 30, 2023, the collaboration advance balance was $0.7 million, partially offset by the cost-sharing receivable balance of $0.2 million, which was presented as a collaboration advance on the Company's condensed consolidated balance sheet.

Affini-T development, option and license agreement

Terms of the agreement

On June 14, 2022, the effective date, the Company entered into a Development, Option and License Agreement (the "Affini-T Agreement") with Affini-T. Pursuant to the Affini-T Agreement, the parties have agreed to identify, develop or optimize certain reagents using the Company's proprietary technology for Affini-T to use such reagents to develop and commercialize gene edited T-cell receptor ("TCR")-based therapeutic products exclusively in the field of treatment, prevention or diagnosis of any human cancer using products with any engineered primary TCR alpha/beta T cells and non-exclusively in the field of treatment, prevention or diagnosis of any human cancer using products with certain other engineered immune cells worldwide. A joint steering committee was established by both parties to assign alliance managers and project leaders to oversee the collaboration activities.

Pursuant to the Affini-T Agreement, the Company granted Affini-T options to receive, on a pre-specified target-by-pre-specified target basis, for up to six pre-specified targets, either (i) an exclusive, royalty-bearing, sublicensable worldwide license under all of the Company's applicable intellectual property to research, develop, manufacture, use, commercialize and otherwise exploit any TCR-based therapy, preventative treatment, or diagnostic for humans that is directed to such pre-specified target, contains or comprises Primary TCR alpha/beta T Cells and is derived from ex vivo application of a Company reagent (the "Exclusive Option") or (ii) a non-exclusive, royalty-bearing, sublicensable worldwide license under all of the Company's applicable intellectual property to research, develop, manufacture, use commercialize and otherwise exploit any TCR-based therapy, preventative treatment, or diagnostic for humans that is directed to such pre-specified target, contains or comprises TCR natural killer ("NK") cells derived from iPSC immune cells or TCR T cells derived from donor-derived or iPSC immune cells. Affini-T can exercise its options for either an exclusive license or a non-exclusive license, or both, for each pre-specified target by providing written notice prior to the earlier of (x) the end of the Affini-T Agreement term or (y) 90 days following the filing of an IND for a licensed product directed to a pre-specified target, subject to the payment of certain fees per each option exercised. After the option exercise, Affini-T has agreed to use commercially reasonable efforts to conduct all development and commercialization activities for a licensed product, and development and commercialization of all licensed products will be at Affini-T's sole cost and expense.

In connection with the Affini-T Agreement, the Company received upfront equity consideration of 719,920 shares of Affini-T's common stock with an estimated fair value of $1.3 million in June 2022. The fair value of Affini-T's shares of common stock was estimated by management, considering the most recent third-party

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valuation. Affini-T has also agreed to reimburse the Company for expenses incurred while performing research activities under the research plans. As of September 30, 2023, the Company received a total of $3.2 million from Affini-T related to reimbursable expenses. Additionally, the Company is eligible to receive (i) 933,650 shares of Affini-T's common stock upon the achievement of a regulatory milestone, which is the earlier of a submission of a drug master file to the FDA or an acceptance of an IND filing for a licensed product by the FDA, (ii) up to $18.8 million in future developmental milestone payments depending on the completion of or the number of patients dosed in, the relevant human clinical trial, or the initiation of a pivotal trial, and $40.6 million in future regulatory approval milestone payments, which include regulatory approvals in the U.S. and other markets for licensed products directed to a pre-specified target if options for both exclusive and non-exclusive licenses are exercised with respect to such target, (iii) up to $250.0 million in sales-based milestones for aggregate sales of all licensed products directed to a given pre-specified target and (iv) royalties ranging from a low-single digit to high-single digit percentage of worldwide annual net sales of licensed products.

The initial term of the Affini-T Agreement is five years from the effective date. If Affini-T exercises an Exclusive Option with respect to any pre-specified target during the initial term, the initial term will be extended by an additional five years. Following the expiration of the extended term, if any, the agreement will continue on a target-by-target basis and expire with respect to such target upon the expiration of the royalty term for all licensed products directed to such target. The Affini-T Agreement may be terminated during the term by either party for an uncured material breach by, or bankruptcy of, the other party. Additionally, Affini-T may terminate the Affini-T Agreement for convenience, in its entirety, on a research plan-by-research plan basis, on a target-by-target basis or on a licensed product-by-licensed product basis, by providing prior written notice.

Accounting analysis and revenue recognition

The Company concluded that the Affini-T Agreement is in the scope of ASC 606 and that there is one performance obligation to perform research activities under the Affini-T Agreement. Exclusive and non-exclusive licenses are optional contingent purchases that do not include significant incremental discounts, and therefore do not provide a material right.

At the effective date, the transaction price consisted of the upfront equity consideration with an estimated fair value of $1.3 million and estimated research reimbursement costs. Research reimbursement costs represent variable consideration, and the Company's management estimates what portion to include in total consideration at the end of each reporting period. Other payments under the Affini-T Agreement, including additional equity consideration and development and regulatory milestones, also represent variable consideration, and are constrained to the extent that the inclusion of such variable consideration could result in a significant reversal of cumulative revenue in future periods. As of December 31, 2022 and September 30, 2023, additional equity consideration and future development and regulatory milestone payments were excluded from the estimated total transaction price as they were considered constrained. The transaction price is reevaluated in each reporting period and as changes in circumstances occur. The Company recognizes revenue each reporting period based on the measure of progress using an estimated cost-based input method.

The Company recognized $0.9 million and $3.7 million in collaboration revenue in the condensed consolidated statements of operations and comprehensive loss during the nine months ended September 30, 2022 and 2023, respectively. As of December 31, 2022, the Company recorded $1.3 million in contract assets on the condensed consolidated balance sheet, related to services performed but not invoiced. There was no contract asset related to services performed as of September 30, 2023. As of September 30, 2023, the Company recorded $2.4 million in accounts receivable on the condensed consolidated balance sheet, related to services performed. As of

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December 31, 2022 and September 30, 2023, deferred revenue related to the Affini-T Agreement was zero and $0.6 million, respectively. In June 2023, the joint steering committee approved the budget for estimated research reimbursement costs for the Affini-T Agreement, which resulted in a $2.4 million reduction to variable consideration. The value of the transaction price allocated to the remaining unsatisfied portion of the performance obligation was approximately $2.1 million as of September 30, 2023, which the Company expects to recognize as revenue over the next four-to-five years.

Ionis collaboration and license agreement

Terms of the agreement

On November 10, 2022, the effective date, the Company entered into a Collaboration and License Agreement (the "Ionis Agreement") with Ionis Pharmaceuticals, Inc. ("Ionis") to collaborate on drug discovery and exploratory research activities to advance new medicines using gene editing strategies, with the goal of discovering novel medicines. Pursuant to the terms of the Ionis Agreement, the Company granted Ionis and its affiliates a worldwide exclusive, royalty-bearing license, with the right to grant sublicenses, to use all licensed systems and licensed products in the field of in vivo gene editing for all therapeutic, prophylactic, palliative, and analgesic uses in humans. In connection with the Ionis Agreement, the Company also has the right to exercise an exclusive option to co-develop and co-commercialize certain products under a drug discovery program. A joint steering committee was established by both parties to coordinate, oversee and monitor the research and drug discovery activities under the Ionis Agreement.

The parties will collaborate to discover therapeutic products under a drug discovery program and develop a drug discovery plan for each target, selected by Ionis. The target selection is divided into two waves: up to four targets in Wave 1 and up to four targets in Wave 2. For each drug discovery program, once the parties identify a development candidate that is suitable for further development, Ionis will be responsible for the development and commercialization of products resulting from such program. Per the terms of the Ionis Agreement, at any time prior to the designation of a development candidate for a drug discovery program and for any reason, Ionis may replace the collaboration target, provided such target has not previously been substituted out. Ionis may substitute (i) up to two Wave 1 targets and (ii) up to two Wave 2 targets.

The drug discovery activities for a program commence on the selection of a target and expire upon the earlier of (a) completion of all drug discovery activities for such program, (b) the fifth anniversary of the effective date and (c) selection of a development candidate for such drug discovery program. If one or more Wave 2 targets become collaboration targets as a result of the parties achieving enabled delivery and less than two years are remaining in the drug discovery term, then the term will be extended to the earlier of (i) the time that the Company completes all of its activities under the applicable drug discovery plan and (ii) the seventh anniversary of the effective date, subject to the Company's consent.

The parties will also conduct an exploratory research program, and will jointly optimize gRNA and select delivery technologies and other activities. The exploratory research activities commence on the effective date and expire upon the earlier of (a) completion of all exploratory research activities established in the exploratory research plan, and (b) the fifth anniversary of the effective date.

The Company has the exclusive option to co-develop and co-commercialize the licensed products under a drug discovery program (the "Co-Co Option") with Ionis. The Co-Co Option may be exercised for (a) the initial Wave 1 target ("Target 1"), (b) no more than one of the other three discovery programs for the Wave 1 targets, and (c) no more than two drug discovery programs for the Wave 2 targets that become collaboration targets. If the

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Company exercises the Co-Co Option for a particular drug discovery program, that drug discovery program will automatically be deemed a "Co-Co Program", all corresponding licensed products be deemed "Co-Co Products," the Company will be obligated to pay Ionis an option exercise fee, and the parties will enter into a separate co-development and co-commercialization agreement. The Co-Co Option exercise fee will equal 50% of Ionis' internal costs and out-of-pocket costs incurred in the conduct of the drug discovery activities prior to the exercise of the Co-Co Option and be reduced by 50% of the Company's corresponding costs incurred. Future development and commercialization costs will be shared equally. The Company may elect to reduce its cost-share percentage anywhere between 50% and 25% on a go-forward basis, provided the Company will continue to bear 50% of the costs of any clinical trials ongoing at the time of the election through the completion of the clinical trials.

The Company will manufacture all licensed systems and certain components of the applicable licensed products that are needed by Ionis for use in its development activities and all of the Company's manufactured components needed by Ionis for use in its commercialization activities. The Company will provide the manufactured components at a price that represents the cost of goods plus 15%.

Pursuant to the terms of the Ionis Agreement, the Company has also been granted an option to obtain a non-exclusive, royalty-bearing license, with the right to grant sublicenses, for certain Ionis' background technology to use in up to eight therapeutic products discovered by the Company in the field of in vivo gene editing and directed to a Collaboration Target (each such product, a "Metagenomi Product" and each such option an "Ionis IP Option"), but subject to encumbrance checks with respect to particular targets. A Collaboration Target is a target that is selected by Ionis, and, with respect to the Company is not the subject of discussions with a third party, is not the subject of a contractual grant of rights to a third party nor the subject to an internal research and development program. If the Company exercises its Ionis IP Option, the Company will pay to Ionis up to several million dollars per Metagenomi Product upon achievement of certain clinical and regulatory milestones. The Company is also obligated to pay Ionis royalties in an amount equal to a low single-digit royalty on the net sales of the applicable Metagenomi Product on product-by-product and country-by-country basis.

In November 2022, the Company received an $80.0 million upfront payment from Ionis for the Wave 1 drug discovery research collaboration and selected Target 1. Ionis selected its second target ("Target 2") in Wave 1 in December 2022 and its third target ("Target 3") in Wave 1 in November 2023. In November 2023, the Company agreed to extend the period during which the Company expects Ionis will select its fourth target ("Target 4") in Wave 1 by an additional three months from the 12-month anniversary of the effective date, as permitted under the arrangement. Ionis has an option to select up to four Wave 2 targets at any time during the drug discovery term, if (a) an IND for any licensed product directed to a Wave 1 target is filed with the applicable regulatory authority or (b) the parties achieve enabled delivery for a non-liver target under the exploratory research activities, by providing written notice and by paying a Wave 2 target selection fee of $15.0 million or $30.0 million, depending on and per the selected target.

Ionis is obligated to reimburse the Company for all internal costs and out-of-pocket costs incurred in the performance of the exploratory research activities, up to an aggregate of $10.0 million, which is payable in quarterly installments of $0.5 million during the exploratory research term. As of September 30, 2023, the Company received a total of $1.5 million related to the reimbursable expenses. The Company is also eligible to receive (a) up to $29.0 million in future development milestone payments for each licensed product; (b) up to $60.0 million in future regulatory milestone payments for each licensed product; (c) up to $250.0 million in

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sales-based milestones for each licensed product. and (d) royalties on annual net sales of licensed products from a mid-single-digit to low-teens percentage, subject to customary reductions.

The term of the Ionis Agreement will continue (i) with respect to the drug discovery programs, until the expiration of all applicable royalty terms for a licensed product, (ii) with respect to the Co-Co Programs, until the parties cease all exploitation for the Co-Co Products that are the subject to such Co-Co Program, and (iii) with respect to the Metagenomi Products, until the expiration of the royalty term for a Metagenomi Product. The royalty term ends on the latest of the following two dates: (i) the expiration of (A) the last claim of any issued and unexpired patent, or (B) a claim within a patent application that has not been pending for more than seven years from the earliest date to which the claim or applicable patent application is entitled to claim priority and which claim has not been revoked, cancelled, withdrawn, held invalid, or abandoned, or (ii) 12 years following the first commercial sale of a licensed product.

The Ionis Agreement may be terminated during the term by either party for an uncured material breach or bankruptcy by the other party. Additionally, Ionis may terminate the Ionis Agreement for convenience and without penalty, in its entirety or on a licensed product-by-licensed product basis, by providing 90 days' written notice.

Accounting analysis and revenue recognition

The Company concluded that the Ionis Agreement is in the scope of ASC 606 at the effective date and until the Company exercises its Co-Co Option for any drug discovery program, which was determined to not be probable at the effective date and as of December 31, 2022 and September 30, 2023. The Company also concluded that exclusive licenses and participation in a joint steering committee are not distinct from discovery research services and should thus be combined into one performance obligation (the "discovery program"). The Company also concluded that exploratory research services are a separate and distinct performance obligation (the "exploratory program"). As the Ionis options for Wave 2 targets are optional purchases and do not have significant incremental discounts, as such, the options do not provide material rights.

The Company allocated the total estimated transaction price of $90.0 million, which consisted of an $80.0 million upfront payment received in November 2022 and a $10.0 million reimbursement for research costs, into two performance obligations, and was determined based on their estimated standalone selling prices. The Company concluded that future development and commercial supply agreements are at market terms, as the terms were consistent with industry standards as of the effective date. The Company constrains future milestone payments under the arrangement to the extent that the inclusion of such variable consideration could result in a significant reversal of cumulative revenue in future periods. The Company constrained all development and regulatory milestone payments at the effective date and as of December 31, 2022 and September 30, 2023. The Company is recognizing revenue of $80.0 million related to the discovery program and of $10.0 million related to exploratory program over the research terms using an estimated cost-based input method as a measure of progress for each obligation.

The Company recognized $14.4 million in collaboration revenue in the condensed consolidated statements of operations and comprehensive loss during the nine months ended September 30, 2023, which was included in deferred revenue as of December 31, 2022. As of December 31, 2022 and September 30, 2023, deferred revenue related to the Ionis Agreement was $79.9 million and $67.0 million, respectively. The value of the transaction price allocated to the remaining performance obligations was approximately $75.5 million as of September 30, 2023, which the Company expects to recognize as revenue over the next four-to-five years.

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8. Commitments and contingencies

Operating leases

In January 2021, the Company entered into a ten-year operating lease for laboratory and office space in Emeryville, California. The lease commencement date was in February 2021. In conjunction with signing this lease, the Company secured a letter of credit for $3.3 million, which is recorded as noncurrent restricted cash in the condensed consolidated balance sheets. As of December 31, 2022 and September 30, 2023, the balance of this letter of credit was $3.3 million and $2.5 million, respectively. The lease agreement includes a renewal provision allowing the Company to extend this lease for an additional five years, which the Company is not reasonably certain to exercise. In addition to base rent, the Company pays variable costs related to its share of operating expenses and taxes, which are recognized as incurred.

In September 2021, the Company entered into a 9.25-year operating lease for office space in Emeryville, California, with a lease commencement date in November 2021. In conjunction with signing the lease, the Company secured a letter of credit for $0.8 million, which is recorded as noncurrent restricted cash in the condensed consolidated balance sheets as of December 31, 2022 and September 30, 2023. In addition to base rent, the Company pays variable costs related to its share of operating expenses and taxes, which are recognized as incurred.

In November 2022, the Company entered into an 8.25-year sublease for office, research and laboratory space in Emeryville, California, with a lease commencement date in January 2023. In conjunction with signing the lease, the Company secured a letter of credit for $2.0 million, which is recorded as noncurrent restricted cash in the condensed consolidated balance sheet as of December 31, 2022 and September 30, 2023. Monthly base rent under the lease is approximately $0.5 million and is subject to annual escalation. During the initial 18 months from the lease commencement date, 50% of the monthly base rent is abated. In addition to base rent, the Company pays variable costs related to its share of operating expenses and taxes, which are recognized as incurred.

Operating lease costs for the nine months ended September 30, 2022 and 2023 totaled $4.1 million and $8.5 million, respectively, including $0.4 million and $2.1 million of variable lease cost, respectively.

Supplemental information related to the Company's operating leases is as follows (in thousands):

	Nine months ended September 30,	
	2022	2023
Cash paid for amounts included in the measurement of lease liabilities	$ 1,663	$ 5,006
Weighted average remaining lease term (in years)	8.3	7.4
Weighted-average discount rate	10.1%	11.3%

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The following table summarizes a maturity analysis of the Company's operating lease liabilities showing the aggregate lease payments as of September 30, 2023 (in thousands):

2023 (remaining)	$ 1,617
2024	8,345
2025	9,361
2026	9,673
2027	9,995
Thereafter	33,283
Total future lease payments	72,274
Less imputed interest	(24,067)
Total lease liability balance	48,207
Less: current operating lease liabilities	(2,269)
Non-current operating lease liabilities	$ 45,938

Legal contingencies

From time to time, the Company may become involved in legal proceedings arising from the ordinary course of business. The Company records a liability for such matters when it is probable that future losses will be incurred and that such losses can be reasonably estimated. Significant judgment by the Company is required to determine both probability and the estimated amount. Management is currently not aware of any legal matters that could have a material adverse effect on the Company's financial position, results of operations or cash flows.

Guarantees and indemnifications

In the normal course of business, the Company enters into agreements that contain a variety of representations and provide for general indemnification. Its exposure under these agreements is unknown because it involves claims that may be made against the Company in the future. To the extent permitted under Delaware law, the Company has agreed to indemnify its directors and officers for certain events or occurrences while the director or officer is, or was serving, at a request in such capacity. To date, the Company has not paid any claims or been required to defend any action related to its indemnification obligations. As of December 31, 2022 and September 30, 2023, the Company did not have any material indemnification claims that were probable or reasonably possible and consequently has not recorded related liabilities.

9. Redeemable convertible preferred units

On January 21, 2022, the Company closed the Series B financing and issued 12,446,876 shares of the Series B redeemable convertible preferred units for gross cash proceeds of $145.0 million. The Company incurred $0.7 million in issuance costs. Concurrently with the closing of the Series B financing, the outstanding Moderna convertible promissory note and accrued interest of $30.4 million was converted into 2,607,387 Series B Preferred Units, at a conversion price equal to the price per unit paid by the Series B investors.

On December 20, 2022, the Company entered into Series B-1 redeemable convertible preferred unit purchase agreement to sell up to 7,108,480 Series B redeemable convertible preferred units at the purchase price of $14.06770. In December 2022, the Company sold and issued 6,773,726 shares of the Series B-1 redeemable

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convertible preferred units for gross cash proceeds of $95.3 million in the initial closing. The Company incurred $0.4 million issuance costs. Additional shares may be sold within 90 days of the initial closing.

In January 2023, the Company sold an additional 334,754 Series B-1 redeemable convertible preferred units in accordance with the Series B-1 purchase agreement and received gross cash proceeds of $4.7 million. The Company incurred $0.1 million in issuance costs.

As of December 31, 2022, the Company operated under the Amended and Restated Limited Liability Company Agreement dated December 20, 2022 (the "LLC Agreement"). As of September 30, 2023, the Company operated under the LLC Agreement, as amended on July 31, 2023 (see Note 11 for details around the amendment). The LLC Agreement provides for eight classes of units: common units, Series A-1 redeemable convertible preferred units (Series A-1), Series A-2 redeemable convertible preferred units (Series A-2), Series A-3 redeemable convertible preferred units (Series A-3), Series A-4 redeemable convertible preferred units (Series A-4), Series A-5 redeemable convertible preferred units (Series A-5), Series B redeemable convertible preferred units (Series B) and Series B-1 redeemable convertible preferred units (Series B-1).

The redeemable convertible preferred units as of December 31, 2022, consisted of the following (in thousands, except unit data):

	Units authorized	Units issued and outstanding	Aggregate liquidation preference	Net carrying value
Series A-1	7,501,002	7,501,002	$ 24,247	$ 24,067
Series A-2	774,473	774,473	500	581
Series A-3	1,513,860	1,513,860	1,773	1,892
Series A-4	8,280,360	8,280,360	40,149	40,007
Series A-5	1,580,937	1,580,937	10,000	9,948
Series B	15,054,263	15,054,263	175,375	174,678
Series B-1	7,108,480	6,773,726	95,291	94,930
	41,813,375	41,478,621	$ 347,335	$ 346,103

The redeemable convertible preferred units as of September 30, 2023, consisted of the following (in thousands, except unit data):

	Units authorized	Units issued and outstanding	Aggregate liquidation preference	Net carrying value
Series A-1	7,501,002	7,501,002	$ 24,247	$ 24,067
Series A-2	774,473	774,473	500	581
Series A-3	1,513,860	1,513,860	1,773	1,892
Series A-4	8,280,360	8,280,360	40,149	40,007
Series A-5	1,580,937	1,580,937	10,000	9,948
Series B	15,054,263	15,054,263	175,375	174,678
Series B-1	7,108,480	7,108,480	100,000	99,585
	41,813,375	41,813,375	$ 352,044	$ 350,758

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The holders of the redeemable convertible preferred units have various rights and preference as follows:

Voting rights

Each redeemable convertible preferred unit is entitled to one vote for each common unit into which such redeemable convertible preferred unit is then convertible. The redeemable convertible preferred unitholders and the common unitholders vote together on all matters as a single class, except as otherwise provided by law or the provisions of the LLC Agreement.

The Board of Managers consists of up to seven individuals. As long as at least 618,716 Series A-1 redeemable convertible preferred units, Series A-2 redeemable convertible preferred units and/or Series A-3 redeemable convertible preferred units remain outstanding, the members holding a majority of the outstanding Series A-1 redeemable convertible preferred units, Series A-2 redeemable convertible preferred units and Series A-3 redeemable convertible preferred units, voting together as a single class on an as-converted basis, are entitled to elect one manager. As long as at least 1,654,555 Series A-4 redeemable convertible preferred units remain outstanding, the members holding a majority of the Series A-4 redeemable convertible preferred units, voting as a single class, are entitled to elect one manager. As long as at least 316,187 Series A-5 redeemable convertible preferred units remain outstanding, the members holding a majority of the Series A-5 redeemable convertible preferred units, voting as a single class, are entitled to elect one manager. As long as at least 3,010,852 Series B redeemable convertible preferred units remain outstanding, the members holding a majority of the Series B redeemable convertible preferred units, voting as a single class, are entitled to elect one manager. The members holding a majority of the common units, voting as a single class are entitled to elect one manager. The members holding a majority of the units then outstanding, voting together as a single class on an as-converted to common units basis are entitled to elect any remaining managers. As of each December 31, 2022 and September 30, 2023 the Company's Board of Managers consisted of six individuals.

Conversion

Each redeemable convertible preferred unit is convertible into common units at the option of a holder at the then applicable conversion price, which is equal the original purchase price, subject to adjustments for recapitalization and others. The original purchase price is equal to $3.2325 per Series A-1 Preferred Unit, $0.6456 per Series A-2 Preferred Unit, $1.1713 per Series A-3 Preferred Unit, $4.84875 per Series A-4 Preferred Unit, $6.32536 per Series A-5 Preferred Unit, $11.64951 per Series B Preferred Unit, and $14.06770 per Series B-1 Preferred Unit. As of December 31, 2022 and September 30, 2023, the redeemable convertible preferred units were convertible into common units at a one-for-one conversion ratio.

Each redeemable convertible preferred unit is automatically convertible into common units (or shares of common stock, if the Company is converted into a corporation), based on the then-effective applicable conversion rate (A) at any time upon the affirmative vote or written consent of (i) the members holding a majority of the redeemable convertible preferred units then outstanding, (ii) the members holding a majority of the Series B redeemable convertible preferred units then outstanding, and (iii) the members holding a majority of the Series B-1 redeemable convertible preferred units then outstanding, or (B) immediately upon the closing of a firmly underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale of common units (or other common securities) with the gross cash proceeds to the Company, before underwriting discounts, commissions and offering expenses, are at least $100.0 million, or (C) the closing of a merger, acquisition or other business combination involving the Company and a publicly traded special purpose acquisition company ("SPAC") or its subsidiary or affiliate in which the

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surviving public company has available immediately cash of at least $100.0 million in the aggregate greater than the cash on the Company's condensed consolidated balance sheets as of immediately prior to such merger, acquisition or other business combination (including proceeds of a private investment in public equity transaction that is substantially contemporaneous with or conditioned on such merger, acquisition or other business combination, and any redemptions from the SPAC's trust account).

Anti-dilution and other protective provisions

The holders of the redeemable convertible preferred units have proportional anti-dilution protection right for unit splits, unit dividends and similar recapitalizations, subject to certain exclusions, anti-dilution price protection for additional sales of securities by the Company for consideration per unit less than the applicable conversion price per unit of any series of the redeemable convertible preferred units, on a broad-based weighted average basis.

The holders of the redeemable convertible preferred units have certain protective rights. The Company shall not, either directly or by amendment, merger, consolidation or otherwise, without the prior written approval of members holding a majority of the redeemable convertible preferred units then outstanding to alter or change the rights, preferences or privileges of the redeemable convertible preferred units; consummate a liquidation or a deemed liquidation event; change the Company's LLC Agreement; authorize or create any new class or series of units or other equity security; increase or decrease the authorized number of the common units or the redeemable convertible preferred units or any series; redeem, acquire or repurchase any, or make any distribution on, any common units or redeemable convertible preferred units; change the compensation or equity awards granted to executive officers of the Company, unless such transaction is approved by the Board of Managers; increase or decrease the authorized number of managers constituting the Board of Managers and amend other rights or enter into certain transactions.

Liquidation preference

In the event of a liquidation, a deemed liquidation event (including a consolidation, merger or reorganization or a sale, lease, transfer, exclusive irrevocable license or other disposition of all or substantially all of the assets of the Company), dissolution or winding-up of the Company, the funds are distributed first to the members holding the redeemable convertible preferred units in proportion to and to the extent of their unreturned original purchase price per redeemable convertible preferred unit, until each member holding the redeemable convertible preferred units has received cumulative distributions in an amount equal to the unreturned original purchase price for each of such member's redeemable convertible preferred unit. Second, to the members holding common units and the redeemable convertible preferred units pro rata based on the number of units held by each such holder, assuming for this purpose that all the redeemable convertible preferred units have been converted into common units as of the date of such operating distribution or distribution of net proceeds or assets available for distribution, whether in cash or in other property. Third, the amounts that would otherwise be distributed to any redeemable convertible preferred unit holder pursuant to the liquidation preference on as-converted to common units basis will be reduced by an amount equal to the remaining preferred participation threshold amount for such redeemable convertible preferred unit. The preferred participation threshold amount for a redeemable convertible preferred unit is equal to the original purchase price, reduced by distributions paid.

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Distributions preference

Distributions, when determined by the Board of Managers, are payable to the members holding the redeemable convertible preferred units, pro rata in proportion to the liquidation preference amounts in respect of the redeemable convertible preferred units held by such members; thereafter, to the members in proportion to the number of shares held by such members, on as converted basis. No distributions were declared or made from inception and during the nine months ended September 30, 2022 and 2023.

Redemption

The redeemable convertible preferred units are not redeemable except in the event of certain effected deemed liquidation events, that are not in the Company's control.

10. Common units

As of December 31, 2022 and September 30, 2023, the Company was authorized to issue 66,000,000 common units. Each common unit is entitled to cast one vote. The holders of common units are also entitled to receive distributions whenever funds are legally available and when declared by the Company's Board of Managers, subject to prior rights of the holders of the redeemable convertible preferred units. No distributions have been declared from inception to date.

As of December 31, 2022 and September 30, 2023, the Company reserved common units for future issuance as follows:

	December 31, 2022	September 30, 2023
Outstanding redeemable convertible preferred units	41,478,621	41,813,375
Outstanding profits interests	7,516,073	9,556,687
Units available for grants under 2019 Equity Incentive Plan	7,088,092	5,047,478
Total common units reserved for future issuance	56,082,786	56,417,540

Founders and investors common units

In June 2017, Metagenomi Inc. issued 4,687,500 shares of its common stock at a purchase price of $0.0001 per share to its founders and investors for services, which was an estimated fair value determined by the Board of Managers at the issuance date. Pursuant to the terms of the stock purchase agreements, 25% of the shares vested on the first anniversary of the vesting start date and monthly over the next 36 months. Vesting of shares is accelerated upon a change of control event (including an acquisition of the Company by another entity by means of any transaction or series of related transactions, or a sale of all or substantially all of the assets of the Company). The Company has a right to repurchase unvested shares upon termination of services provided by the founders to the Company at the price lower of i) the purchase price or ii) the fair value at the date of repurchase. In November 2018, in connection with the reorganization, common stock issued by Metagenomi Inc. was exchanged for common units of Metagenomi with the same terms. The estimated fair value of common unit at the modification date was determined to be $0.02 per unit, based on the Company's recent common unit valuation, and the modification expense was immaterial.

In March 2019, the Company issued 1,260,000 common units to an investor for services with a purchase price of $0.02 per unit, which was based on the recent Company's common stock valuation. As long as the investor

Notes to the Unaudited Condensed Consolidated Financial Statements

continues to provide services, 25% of the shares vested immediately and the remainder vested monthly over the next 36 months. Vesting of shares is accelerated upon a change of control event. The Company has a right to repurchase unvested shares upon termination of services provided by the founders to the Company at the price lower of i) the purchase price or ii) the fair value at the date of repurchase.

The Company accounts for issued common units as unit-based compensation to founders and investors as service providers and recognizes unit-based compensation expense of $0.1 million over the vesting period. The Company had 78,750 common units vested during the nine months ended September 30, 2022, having a fair value of less than $0.1 million. There were no common units unvested as of December 31, 2022 and September 30, 2023.

11. Profits interests plan

The Company grants profits interests under the 2019 Equity Incentive Plan, adopted on March 13, 2019 (the “2019 Plan”). The Company may grant profits interests with a threshold amount, which may be zero, established by the Board of Managers on the date of issuance. Accordingly, such profits interests do not give a holder a share of the proceeds if the Company’s assets were sold at fair market value and the proceeds of such disposition were distributed in complete liquidation of the Company immediately after the date of grant but give a holder a right to share in the appreciation in the value of a common unit from the date of receipt to the future, as specifically provided in the LLC Agreement. The 2019 Plan allows for grants of profits interests to the Company’s officers, employees, directors and consultants. Profits interests generally vest monthly over four years, with or without one- year cliff vesting in the first year. In the event of a profits interest holder’s termination, the unvested portion of such profits interest is automatically forfeited and cancelled without any additional consideration. Additionally, the Company has the right to repurchase the vested portion of such profits interest at its fair market value, which is based on the fair market value of a common unit (as determined by the Board of Managers), less the applicable profits interest threshold amount, at any time during the 12-month period after termination of a profits interest holder’s service to the Company.

The Company’s LLC Agreement was amended on July 31, 2023 to provide for “catch-up” distributions for profits interests once the applicable catch-up threshold amount for such profits interests was met (the “Amendment to the LLC Agreement”).

The LLC Agreement provides each profits interest with a distribution threshold amount, which is determined on the date of issuance and represents the amount that would be distributed if, immediately after issuance, the Company sold all of its assets at fair market value and distributed the net proceeds in liquidation. A profits interest does not participate in Company distributions until an amount equal to its distribution threshold amount has been distributed to other members of the Company with units that either have a lower threshold amount or no threshold amount.

In accordance with the Amendment to the LLC Agreement, once the applicable distribution threshold amount has been met for a particular profits interest, such profits interest will participate in Company distributions on a pro rata basis until the catch-up threshold amount has been met. Once the catch-up threshold amount has been met, subsequent “catch-up” distributions will be made solely to holders of profits interests until such holders have received an amount equal to the amount such holders would have received had the distribution threshold not existed. Once the profits interest holders have received distributions in an amount equal to what they would have received had the distribution threshold not existed, all subsequent distributions are made on a pro rata basis with common unitholders.

Notes to the Unaudited Condensed Consolidated Financial Statements

As a result of the amendment, the Board approved an $11.84 catch-up threshold amount, which was based on the estimated fair value of the Company's common unit as of July 31, 2023.

Refer below for discussion around the accounting treatment and financial statement impact of the catch-up.

The number of common units reserved for issuance under the 2019 Plan was 14,604,165 as of September 30, 2023.

The table below presents a summary of activities and a reconciliation of common units authorized and remaining for grant under the 2019 Plan during the nine months ended September 30, 2023:

	Units available for grants	Profits interests	Weighted-average threshold amount	Aggregate intrinsic value (in thousands)
Outstanding as of January 1, 2023	7,088,092	7,516,073	$ 1.17	$ 34,398
Profits interests granted	(2,267,813)	2,267,813	$ 7.60	
Forfeited and expired	227,199	(227,199)	$ 3.62	
Outstanding as of September 30, 2023	5,047,478	9,556,687	$ 2.64	$ 92,502
Vested and expected to vest	5,047,478	9,556,687	$ 2.64	$ 92,502

The aggregate intrinsic value is calculated as the positive difference between the threshold amount of the profits interests and the fair value of the Company's common unit as of September 30, 2023.

During the nine months ended September 30, 2022 and 2023, the Company granted 2,244,356 and 2,267,813 profits interests with a weighted average grant date fair value of $1.89 and $6.73, respectively. The total fair value of the profits interests vested during the nine months ended September 30, 2022 and 2023 was $0.4 million and $2.2 million, respectively.

Unit-based compensation expense

The grant date fair value of common units issued prior to July 31, 2023 utilized in the Black-Scholes model is determined by the Company's Board of Managers with the assistance of management. The grant date fair value of common units is determined using valuation methodologies which utilizes certain assumptions including probability weighting of expected exit events, volatility, time to liquidation, a risk-free interest rate and an assumption for a discount for lack of marketability.

After giving the effect to the Amendment to the LLC Agreement, the grant date fair value of profits interests issued after July 31, 2023 and profits interests at the modification date was estimated using the valuation model based on the Probability Weighted Expected Return Method ("PWERM"). The estimated equity fair value was allocated via the distribution waterfall in accordance with the Amendment to the LLC Agreement to all outstanding redeemable convertible preferred units, common units and profits interests.

Notes to the Unaudited Condensed Consolidated Financial Statements

The value of profits interests calculated using the Black-Scholes model and the option-pricing model within the PWERM model was based on the following assumptions for the nine months ended September 30, 2022 and 2023:

	Nine months ended September 30, 2022	From January 1 to July 30, 2023	From July 31 to September 30, 2023
Expected volatility	79.57% — 82.60%	78.57% — 86.33%	85.00%
Expected dividend yield	0%	0%	0%
Expected term (in years)	3.52 — 4.00	2.00 — 4.12	1.75
Risk-free interest rate	2.65% — 3.05%	3.50% — 4.47%	5.00%
Threshold range	3.20	5.75 — 7.40	11.84

Expected volatility—The Company is a private company and lacks company-specific historical and implied volatility information. Therefore, the Company estimates its expected unit's volatility based on the historical volatility of a publicly traded set of peer companies and expect to continue to do so until the Company has adequate historical data regarding the volatility of the Company's traded unit or stock price.

Expected term—The expected term of profits interests has been determined based on the expected time to liquidity and expected vesting term.

Risk-free interest rate—The risk-free interest rate is determined by reference to the U.S. Treasury yield curve in effect at the time of grant of the award for time periods approximately equal to the expected term of the award.

Dividends—Expected dividend yield is zero because the Company does not pay cash dividends on common units and does not expect to pay any cash dividends in the foreseeable future.

The PWERM is the hybrid method, where the equity value in one or more scenarios is calculated using an option pricing model. The PWERM is a scenario based methodology that estimates the fair value of common unit based upon an analysis of future values for the company, assuming various outcomes. The common unit value is based on the probability-weighted present value of expected future investment returns considering each of the possible outcomes available as well as the rights of each class of members' units. The future value of the common unit under each outcome is discounted back to the valuation date at an appropriate risk-adjusted discount rate and probability weighted to arrive at an indication of value for the common unit. A discount for lack of marketability of the common unit is then applied to arrive at an indication of value for the common unit.

In determining the fair value of the common units, the methodologies used to estimate the enterprise value were performed using methodologies, approaches, and assumptions consistent with the American Institute of Certified Public Accountants Accounting and Valuation Guide, Valuation of Privately-Held-Company Equity Securities Issued as Compensation.

Notes to the Unaudited Condensed Consolidated Financial Statements

The following table presents the classification of unit-based compensation expense for the nine months ended September 30, 2022 and 2023 (in thousands):

	Nine months ended September 30,	
	2022	2023
Research and development expenses	$ 495	$ 2,166
General and administrative expenses	896	2,287
Total unit-based compensation expense	$ 1,391	$ 4,453

The above unit-based compensation expense related to the following unit-based awards for the nine months ended September 30, 2022 and 2023 (in thousands):

	Nine months ended September 30,	
	2022	2023
Profits Interests	$ 1,389	$ 4,453
Common Units	2	—
Total unit-based compensation expense	$ 1,391	$ 4,453

As part of the catch-up and Amendment to the LLC Agreement, the Company modified the terms and conditions of the profits interest, which resulted in a change in the fair value of the awards. The change was treated as a modification under ASC 718, *Stock Compensation,* in which the fair value of the profits interests were remeasured at the modification date and compared to the fair value of the modified award immediately prior to the modification, with the difference resulting in incremental compensation expense. The Company estimated total modification expense of $10.3 million. The company recognized $1.1 million of this expense related to vested profits interests as of the modification date and the remaining $9.2 million is expected to be recognized over the next 3.3 years as profits interests continue to vest.

There was $5.3 million and $19.3 million in unrecognized unit-based compensation expense related to the profits interests as of September 30, 2022 and 2023, respectively, that is expected to be recognized over a weighted-average period of 3.2 and 2.9 years, respectively. There was no unrecognized unit-based compensation expense related to the common units as of December 31, 2022 and September 30, 2023, as all common units were fully vested.

12. Related party transactions

In connection with Series B financing, the Company reimbursed certain investors for finance issuance costs that they incurred totaling $0.3 million during the nine months ended September 30, 2022.

In connection with Series B-1 financing, the Company reimbursed certain investors for finance issuance costs that they incurred totaling $0.1 million during the year ended December 31, 2022. As of December 31, 2022, $0.1 million of Series B-1 financing costs reimbursable to investors is recorded in accrued expenses and other current liabilities in the condensed consolidated balance sheets. The reimbursable Series B-1 financing costs were fully paid during the nine months ended September 30, 2023.

Notes to the Unaudited Condensed Consolidated Financial Statements

13. Income taxes

Metagenomi is treated as a partnership for tax purposes, and thus, is not subject to income taxes. It is the responsibility of the LLC members to report their proportionate share of any taxable income or loss generated by Metagenomi to the appropriate taxing authorities and pay the associated taxes, if any. With respect to the Company's subsidiary, Metagenomi Inc. is a corporation for tax purposes and is subject to income taxes which have been included in the condensed consolidated financial statements. All pre-tax losses have been incurred in the United States.

The Company provides for income taxes in interim periods based on the estimated annual effective tax rate for the year, adjusting for discrete items in the quarter in which they arise. The income tax provision for the nine months ended September 30, 2022 and 2023 was related to the timing differences of the recognition of upfront payments received under the Company's collaboration agreements for tax and financial reporting purposes and capitalization of its research and development expenses under the newly enacted Internal Revenue Code Section 174 ("Section 174"), which became effective on January 1, 2022. The effective tax rate differs from the U.S. statutory rate primarily due to the full valuation allowances on the Company's net deferred tax assets as it is more likely than not that all of the deferred tax assets will not be realized.

For the nine months ended September 30, 2022 and 2023, the Company recorded a provision for income taxes of $1.7 million and $5.3 million by applying its estimated annual effective tax rate to its year-to-date measure of ordinary income, respectively. The increase in the provision for income taxes during the nine months ended September 30, 2023 is primarily due to the increase in forecasted research and development spend, which results in corresponding increases to Section 174 capitalization, and taxable income related to the Ionis upfront payment which is partially offset by an increase in forecasted research and development credit.

14. Net loss per unit

Basic and diluted net loss per unit attributable to common unitholders is calculated as follows (in thousands except share and per share amounts):

	Nine months ended September 30,	
	2022	2023
Numerator:		
Net loss attributable to common members	$ (28,966)	$ (48,961)
Denominator:		
Weighted-average common units outstanding	5,947,500	5,947,500
Less: Weighted-average unvested common units subject to repurchase	(11,827)	—
Weighted-average units used to compute basic and diluted net loss per share	5,935,673	5,947,500
Net loss per unit attributable to common unitholders—basic and diluted:	$ (4.88)	$ (8.23)

Notes to the Unaudited Condensed Consolidated Financial Statements

The following outstanding potentially dilutive securities have been excluded from the calculation of diluted net loss per unit, as their effect is anti-dilutive:

	Nine months ended September 30,	
	2022	2023
Redeemable convertible preferred units	34,704,895	41,813,375
Profits interests	7,085,437	9,556,687
Total	41,790,332	51,370,062

15. Subsequent events

The Company has reviewed and evaluated subsequent events and concluded there were no subsequent events through December 8, 2023, the date that the condensed consolidated financial statements were available to be issued, except for the selection of Target 3 in Wave 1 and the extension of the Target 4 selection period under the Ionis Agreement in November 2023 as discussed in Note 7.

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Shares

Common Stock

Prospectus

J.P. Morgan **Jefferies** **TD Cowen** **Wells Fargo Securities** **BMO Capital Markets**

Chardan

, 2024

Through and including , 2024 (the 25th day after the date of this prospectus), all dealers that effect transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

Part II

Information Not Required in Prospectus

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth the costs and expenses, other than underwriting discounts and commissions, to be paid by us in connection with the sale of the shares of common stock being registered hereby. All amounts shown are estimates except for the SEC registration fee, the FINRA filing fee and the Nasdaq Global Market initial listing fee.

SEC registration fee	$ 14,760
FINRA filing fee	15,500
Nasdaq listing fee	*
Printing and engraving expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees and expenses	*
Miscellaneous	*

* To be provided by amendment.

Item 14. Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law (the "DGCL") authorizes a corporation to indemnify its directors and officers against liabilities arising out of actions, suits and proceedings to which they are made or threatened to be made a party by reason of the fact that they have served or are currently serving as a director or officer to a corporation. The indemnity may cover expenses (including attorneys' fees) judgments, fines and amounts paid in settlement actually and reasonably incurred by the director or officer in connection with any such action, suit or proceeding. Section 145 permits corporations to pay expenses (including attorneys' fees) incurred by directors and officers in advance of the final disposition of such action, suit or proceeding. In addition, Section 145 provides that a corporation has the power to purchase and maintain insurance on behalf of its directors and officers against any liability asserted against them and incurred by them in their capacity as a director or officer, or arising out of their status as such, whether or not the corporation would have the power to indemnify the director or officer against such liability under Section 145.

We have adopted provisions in our amended and restated certificate of incorporation and amended and restated bylaws to be in effect upon the effectiveness of this registration statement that limit or eliminate the personal liability of our directors to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended. Consequently, a director will not be personally liable to us or our stockholders for monetary damages or breach of fiduciary duty as a director, except for liability for:

- any breach of the director's duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- any unlawful payments related to dividends or unlawful stock purchases, redemptions or other distributions; or
- any transaction from which the director derived an improper personal benefit.

These limitations of liability do not alter director liability under the federal securities laws and do not affect the availability of equitable remedies such as an injunction or rescission.

In addition, our amended and restated bylaws to be in effect upon the effectiveness of this registration statement provide that:

- we will indemnify our directors, officers and, in the discretion of our board of directors, certain employees to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended; and
- we will advance reasonable expenses, including attorneys' fees, to our directors and, in the discretion of our board of directors, to our officers and certain employees, in connection with legal proceedings relating to their service for or on behalf of us, subject to limited exceptions.

We intend to enter into indemnification agreements with each of our directors and executive officers. These agreements provide that we will indemnify each of our directors, certain of our executive officers and, at times, their affiliates to the fullest extent permitted by Delaware law. We will advance expenses, including attorneys' fees (but excluding judgments, fines and settlement amounts), to each indemnified director or executive officer in connection with any proceeding in which indemnification is available and we will indemnify our directors and officers for any action or proceeding arising out of that person's services as a director or officer brought on behalf of us or in furtherance of our rights. Additionally, certain of our directors or officers may have certain rights to indemnification, advancement of expenses or insurance provided by their affiliates or other third parties, which indemnification relates to and might apply to the same proceedings arising out of such director's or officer's services as a director referenced herein. Nonetheless, we have agreed in the indemnification agreements that our obligations to those same directors or officers are primary and any obligation of such affiliates or other third parties to advance expenses or to provide indemnification for the expenses or liabilities incurred by those directors are secondary.

We also maintain general liability insurance which covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers, including liabilities under the Securities Act.

The underwriting agreement filed as Exhibit 1.1 to this registration statement provides for indemnification of us and our directors and officers by the underwriters against certain liabilities under the Securities Act and the Exchange Act.

Item 15. Recent Sales of Unregistered Securities

In the three years preceding the filing of this registration statement, we have issued the following securities that were not registered under the Securities Act:

(a) Preferred Units

From 2020 to 2021, we sold an aggregate of 9,861,297 Series A preferred units in multiple closings, consisting of (i) 8,280,360 Series A-4 preferred units sold at a purchase price of $4.84875 per unit for an aggregate amount of $40.1 million and (ii) 1,580,937 Series A-5 preferred units sold at a purchase price of $6.32536 per unit for an aggregate amount of $10.0 million, for total aggregate proceeds of $50.1 million.

In 2022 and 2023, we sold an aggregate of 22,162,743 Series B preferred units in multiple closings, consisting of (i) 15,054,263 Series B preferred units, which includes (a) 12,446,876 Series B preferred units sold at a purchase price of $11.64951 per unit and (b) 2,607,387 Series B preferred units which converted pursuant to a promissory note with a principal amount of $30.0 million and accrued interest of $0.4 million between the Company and ModernaTx, Inc., for an aggregate amount of $175.4 million and (ii) 7,108,480 Series B-1 preferred units sold at a purchase price of $14.06770 per unit for an aggregate amount of $100.0 million, for total aggregate proceeds of $275.4 million.

No underwriters were involved in the foregoing sales of securities. The sales of securities described above were deemed to be exempt from registration pursuant to Section 4(a)(2) of the Securities Act, including Regulation D and Rule 506 promulgated thereunder, as transactions by an issuer not involving a public offering. All of the purchasers in these transactions represented to us in connection with their purchase that they were acquiring the securities for investment and not distribution, that they could bear the risks of the investment and could hold the securities for an indefinite period of time. Such purchasers received written disclosures that the securities had not been registered under the Securities Act and that any resale must be made pursuant to a registration or an available exemption from such registration. All of the foregoing securities are deemed restricted securities for the purposes of the Securities Act.

(b) Profits Interests

Since January 1, 2020, we have granted an aggregate of 9,903,897 profits interests, with profits interests threshold amounts ranging from $0.08 to $11.84 per unit, to employees, directors and consultants pursuant to the 2019 Plan. No common units have been issued pursuant to the 2019 Plan.

The issuances of the securities under the 2019 Plan described above were deemed to be exempt from registration pursuant to Section 4(a)(2) of the Securities Act or Rule 701 promulgated under the Securities Act as transactions pursuant to compensatory benefit plans. The profits interests are deemed to be restricted securities for purposes of the Securities Act.

The issuance of securities described above to employees and consultants outside of the 2019 Plan were deemed exempt from registration pursuant to Section 4(a)(2) of the Securities Act as transactions by an issuer not involving a public offering.

Item 16. Exhibits and Financial Statement Schedules

(a) Exhibits.

Exhibit number	Exhibit table
1.1*	Form of Underwriting Agreement
3.1*	Amended and Restated Certificate of Incorporation of the Registrant, as currently in effect
3.2*	Form of Amended and Restated Certificate of Incorporation of the Registrant (to be effective upon the closing of this offering)
3.3*	Amended and Restated Bylaws, as currently in effect
3.4*	Form of Amended and Restated By-laws (to be effective upon the closing of this offering)
4.1*	Amended and Restated Investors' Rights Agreement among the Registrant and certain of its stockholders, dated December 20, 2022
4.2*	Form of Common Stock Certificate
5.1*	Opinion of Goodwin Procter LLP
10.1#*	2019 Equity Incentive Plan, as amended, and forms of award agreements thereunder
10.2#*	2024 Stock Option and Incentive Plan and forms of award agreements thereunder
10.3#*	2024 Employee Stock Purchase Plan
10.4#*	Form of Officer Indemnification Agreement
10.5#*	Form of Director Indemnification Agreement
10.6†	Strategic Collaboration and License Agreement by and between the Registrant and ModernaTX, Inc., dated October 29, 2021
10.7†	Collaboration and License Agreement by and between the Registrant and Ionis Pharmaceuticals, Inc., dated November 10, 2022
10.8†	Development, Option and License Agreement by and between the Registrant and Affini-T Therapeutics, Inc., dated June 14, 2022
10.9	Lease Agreement between EPL Halleck Investors LLC and Metagenomi, Inc., dated January 22, 2021
10.10	Sublease Agreement between Zymergen Inc. and Metagenomi, Inc., dated November 11, 2022
10.11	Lease Agreement between Park Avenue Building LLC and Metagenomi, Inc., dated September 29, 2021
10.12#	Employment Agreement between the Registrant and Brian C. Thomas, dated as of March 20, 2023
10.13#	Offer of Employment between the Registrant and Jian Irish, dated as of January 19, 2021
10.14#	Offer of Employment between the Registrant and Sarah Noonberg, dated as of January 30, 2023
10.15#	Form of Confidentiality and Invention Assignment Agreement
10.16#*	Form of Executive Employment Agreement
10.17#	Manager Offer Letter between the Registrant and Willard Dere, dated as of August 19, 2021
16.1	Letter from KPMG LLP to the Securities and Exchange Commission dated August 3, 2023
21.1*	Subsidiaries of the Registrant
23.1	Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm
23.2*	Consent of Goodwin Procter LLP (included in Exhibit 5.1)

Exhibit number	Exhibit table
24.1	Power of Attorney (included on signature page to this registration statement)
107	Filing Fees Exhibit

* To be filed by amendment.
\# Indicates a management contract or any compensatory plan, contract or arrangement
† Portions of this exhibit (indicated by asterisks) have been omitted in accordance with the rules of the SEC because the Registrant has determined that information is not material and would be competitively harmful if publicly disclosed.

(b) Financial Statement Schedules.

None.

Item 17. Undertakings

The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the Underwriting Agreement certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that:

(i) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(ii) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Signatures

Pursuant to the requirements of the Securities Act, Metagenomi Technologies, LLC has duly caused this registration statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Emeryville, California, on the 5th day of January, 2024.

Metagenomi Technologies, LLC

By: /s/ Brian C. Thomas
Brian C. Thomas, Ph.D.
Chief Executive Officer

Signatures and Power of Attorney

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Brian C. Thomas and Pamela Wapnick, and each of them, either of whom may act without the joinder of the other, as his or her true and lawful attorneys-in-fact and agents with full power of substitution and re-substitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and to sign any registration statement for the same offering covered by the registration statement that is to be effective upon filing pursuant to Rule 462(b) promulgated under the Securities Act, and all post-effective amendments thereto, and to file the same, with all exhibits thereto and all documents in connection therewith, with the SEC, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or his or her or their substitute or substitutes, may lawfully do or cause to be done or by virtue hereof.

Pursuant to the requirements of the Securities Act, this registration statement has been signed by the following persons in the capacities indicated on the 5th day of January, 2024.

Signature	Title
/s/ Brian C. Thomas Brian C. Thomas, Ph.D.	Chief Executive Officer (Principal Executive Officer)
/s/ Pamela Wapnick Pamela Wapnick, MBA	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)
/s/ Juergen Eckhardt Juergen Eckhardt, M.D., MBA	Director
/s/ Sebastián Bernales Sebastián Bernales, Ph.D.	Director
/s/ Risa Stack Risa Stack, Ph.D.	Director
/s/ Willard Dere Willard Dere, M.D.	Director
/s/ Santhosh Palani Santhosh Palani, Ph.D.	Director

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [***], HAS BEEN OMITTED BECAUSE IT IS NOT MATERIAL AND IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL

CONFIDENTIAL

STRATEGIC COLLABORATION AND LICENSE AGREEMENT

Between

MODERNATX, INC.

and

METAGENOMI, INC.

October 29, 2021

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STRATEGIC COLLABORATION AND LICENSE AGREEMENT

This **STRATEGIC COLLABORATION AND LICENSE AGREEMENT** (this "**Agreement**") is entered into as of October 29, 2021 (the "**Effective Date**") by and between **METAGENOMI, INC.**, a company incorporated under the laws of Delaware having an address at 1545 Park Ave, Emeryville, CA 94608 ("**Metagenomi**"), and **MODERNATX, INC.**, a corporation organized and existing under the laws of Delaware, with its principal business office located at 200 Technology Square, Cambridge, MA 02139 ("**Moderna**"). Moderna and Metagenomi are each hereafter referred to individually as a "**Party**" and together as the "**Parties**."

WHEREAS, Metagenomi is a biotechnology company focused on using metagenomics and machine learning to discover novel genome editing systems;

WHEREAS, Moderna is a pharmaceutical company engaged in the research, development, manufacturing, marketing and distribution of mRNA-based therapeutic products;

WHEREAS, Moderna and Metagenomi desire to establish a collaboration to discover novel genome editing technologies for use as *in vivo* genome editing therapies;

WHEREAS, Metagenomi and Moderna desire to collaborate in the research and development of *in vivo* genome editing therapies directed at certain targets as well as the commercialization of such genome editing therapies all as set forth in the Program Plans (as defined below);

WHEREAS, Moderna will provide an equity investment in Metagenomi in the form of a convertible note pursuant to the Convertible Note Instruments dated October 29, 2021.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Parties hereby agree as follows:

Article 1
DEFINITIONS

Capitalized terms used in this Agreement and the Schedules hereto shall have the following meanings (or as defined elsewhere in this Agreement):

1.1 "**Affiliate**" means, with respect to a Person (including a Party), any entity that, at the relevant time (whether as of the Effective Date or thereafter), directly or indirectly through one or more intermediaries, controls, is controlled by, or is under common control with such Person, for so long as such control exists. As used in this Section 1.1, "control" means: (a) to possess, directly or indirectly, the power to direct or cause the direction of the management or policies of an entity, whether through ownership of voting securities or by contract relating to voting rights or corporate governance; or (b) direct or indirect ownership of more than fifty percent (50%) (or such lesser percentage that is the maximum allowed to be owned by a foreign entity in a particular jurisdiction) of the voting share capital or other equity interest in such entity.

1.2 “**Allowable Overruns**” means, for a particular DT Co-Co Candidate or DT Co-Co Product, as applicable, any amount that is less than [***] (or such other percentage as may be approved by the JSC) above the most recent budgeted costs and expenses for a Calendar Year on a year-to-date basis set forth in any applicable Research Budget, Development Budget, Medical Affairs Budget, or Commercialization Budget, as applicable, for such Calendar Year; provided that such amount is not attributable to (a) the breach of this Agreement or (b) the gross negligence or willful misconduct of either Party or any of its Affiliates.

1.3 “**Applicable Laws**” means the applicable provisions of any and all federal, national, supranational, regional, state and local laws, treaties, statutes, rules, regulations, guidelines or requirements, administrative codes, guidance, ordinances, judgments, decrees, directives, injunctions, orders, or permits of or from any court, arbitrator, Regulatory Authority, Governmental Authority, data protection authority, taxing authority, national securities exchange or exchange listing organization having jurisdiction over or related to the relevant subject item that may be in effect from time to time during the Term.

1.4 “**Approved Labeling**” means, with respect to a DT Co-Co Product: (a) the Regulatory Authority-approved full prescribing information for such DT Co-Co Product; and (b) the Regulatory Authority-approved labels and other written, printed, or graphic materials on any container, wrapper, or any package insert that is used with or for such DT Co-Co Product.

1.5 “**Background Technology**” means, with respect to a Party, on a Program-by- Program basis, any and all materials, Patents, Know-How and other intellectual property rights Controlled by such Party or any of its Affiliates as of the Effective Date or that comes into the Control of such Party or any of its Affiliates during the Term (other than Program Technology), in each case related to or otherwise pertaining to such Program, and in the case of Moderna, to the extent Moderna makes any of the foregoing available to Metagenomi pursuant to this Agreement. Background Technology shall not include any materials, Patents, Know-How or other intellectual property rights Controlled by a New Affiliate of a Party and not also Controlled by such Party or any of its Affiliates, provided that such New Affiliate is not utilizing the Metagenomi Licensed Collaboration Technology or the Moderna Licensed Collaboration Technology with respect to the activity that would otherwise be restricted under Sections 5.20 (RT Exclusivity), 5.21 (DT Exclusivity), or 5.22 (DT Co-Co Target Exclusivity), as applicable.

1.6 “**Base Editing**” means [***].

1.7 “**Base Editing Correction Readiness**” means the criteria for Base Editing correction as specified in part 2 of the Base Editing Readiness Milestones in **Schedule C** (Certain Technology Milestones).

1.8 “**Base Editing Knockout Readiness**” means the criteria for Base Editing knockout as specified in part 1 of the Base Editing Readiness Milestones in **Schedule C** (Certain Technology Milestones).

1.9 “**Base Editing Readiness Milestone**” means [***].

1.10 “**BEC**” means [***].

1.11 “**Biosimilar Application**” means an application submitted to the FDA under subsection (k) of Section 351 of the PHSA, or any analogous application submitted to a Regulatory Authority in the U.S. or in another country in the world.

1.12 “**Biosimilar Product**” means, with respect to a Product, and on a Product-by-Product and country-by-country basis, any product (including a “generic product,” “biogeneric,” “follow-on biologic,” “follow-on biological product,” “follow-on protein product,” “similar biological medicinal product,” or “biosimilar product”) approved by way of an abbreviated regulatory mechanism by the relevant Regulatory Authority in a country in reference to such Product, that in each case: (a) is sold in the same country (or is commercially available in the same country via import from another country) as such Product by any Third Party that is not a Sublicensee of the applicable Party or any of its Affiliates and that did not purchase such product in a chain of distribution that included any of the applicable Party or any of its Affiliates or its Sublicensees; and (b) meets the equivalency determination by the applicable Regulatory Authority in such country (including a determination that the product is “comparable,” “interchangeable,” “bioequivalent,” “biosimilar” or other term of similar meaning, with respect to the Product), in each case, as is necessary to permit substitution of such product for the Product under Applicable Law in such country, including, with respect to the U.S., to an Abbreviated New Drug Applications under Section 505(j) of the FD&C Act (21 USC 355(j)) or is approved as a “Biosimilar Biologic Product” under Title VII, Subtitle A Biologics Price Competition and Innovation Act of 2009, Section 42 U.S.C. 262, Section 351 of the PHSA, or, outside the U.S., in accordance with European Directive 2001/83/EC on the Community Code for medicinal products (Article 10(4) and Section 4, Part II of Annex I) and European Regulation EEC/2309/93 establishing the Community procedures for the authorization and evaluation of medicinal products, each as amended, and together with all associated guidance, and any counterparts thereof or equivalent process inside or outside of the U.S. or EU to the foregoing.

1.13 “**Business Day**” means any day other than Saturday, Sunday, or any day that banks are authorized or required to be closed in the state of New York or the Commonwealth of Massachusetts or the state of California.

1.14 “**Calendar Quarter**” means each respective period of three (3) consecutive months ending on March 31, June 30, September 30 and December 31 of any Calendar Year.

1.15 “**Calendar Year**” means each respective period of twelve (12) consecutive months commencing on January 1 and ending on December 31.

1.16 “**Candidate**” means a BEC Candidate, an RT Candidate, a DT Moderna Candidate or a DT Co-Co Candidate, as the case may be.

1.17 “**Change of Control**” means, with respect to either Party: (i) the acquisition by a Third Party, in one transaction or a series of related transactions, of direct or indirect beneficial ownership of more than fifty percent (50%) of the outstanding voting equity securities of such Party (excluding, for clarity, an acquisition by a Third Party where the stockholders of such acquired Party immediately prior to such transaction hold a majority of the voting shares of outstanding capital stock of the surviving entity immediately following such transaction); (ii) a merger or consolidation involving such Party, as a result of which a Third Party acquires direct or

indirect beneficial ownership of more than fifty percent (50%) of the voting power of the surviving entity immediately after such merger, reorganization or consolidation; or (iii) a sale of all or substantially all of the assets of such Party in one transaction or a series of related transactions to a Third Party. The acquiring or combining Third Party in any of (i), (ii) or (iii), and any of such Third Party's Affiliates (whether in existence as of or any time following the applicable transaction, but other than the acquired Party and its Affiliates as in existence prior to the applicable transaction or other Affiliates such Party or its Affiliates controls (directly or indirectly) after the applicable transaction) are referred to collectively herein as the "**Acquirer**."

Notwithstanding the foregoing, with respect to Metagenomi, the term "Change of Control" shall not include (i) any sale of shares of capital stock of Metagenomi or any of its Affiliates, in a single transaction or series of related transactions, in which Metagenomi or its applicable Affiliate issues new securities for cash or the cancellation or conversion of indebtedness or a combination thereof, or (ii) any merger or consolidation of Metagenomi or any of its Affiliates (including a special purpose acquisition company (SPAC)), in each case ((i) and (ii)) where such transaction(s) are conducted primarily for *bona fide* equity financing purposes or for becoming a publicly listed company.

1.18 "**Clinical Trial"** means a Phase I Clinical Trial, Phase II Clinical Trial, Phase III Clinical Trial, or any post-Regulatory Approval human clinical trial, as applicable.

1.19 "**CMC**" means Chemistry and Manufacturing Controls, which includes (a) Manufacturing process development records for products, (b) all chemistry, Manufacturing and control procedures necessary for Manufacture of products, and (c) sourcing and testing of all raw materials and components used in the Manufacture of products.

1.20 "**CMC Activities**" means [***].

1.21 "**CMC Matters**" means [***].

1.22 "**Co-Co In-License**" means Co-Co Moderna In-License Agreements or Co-Co Metagenomi In-License Agreements, as applicable.

1.23 "**Collaboration Materials**" means any tangible (non-document) materials Controlled by a Party or any of its Affiliates that are delivered to the other Party under this Agreement, including to conduct Research as set forth in an applicable Program Plan.

1.24 "**Collaboration Target**" means an RT Target, a DT Moderna Target or the DT Co-Co Target, as the case may be.

1.25 "**Commercial Overhead Charge**" means[***].

1.26 "**Commercialization**" means any and all activities directed to the offering for sale and sale of a Product, including: (a) activities directed to storing, marketing, promoting, detailing, distributing, importing, exporting, selling and offering to sell (including receiving, accepting, and filling orders); (b) handling all returns; (c) controlling invoicing, order processing, and collection of accounts receivable for the sales; (d) booking and recording sales in its books of account; (e) distributing and managing inventory; (f) interacting with Regulatory Authorities regarding any of the foregoing; and (g) seeking Pricing and Reimbursement Approvals (as applicable). When used as a verb, "to **Commercialize**" and "**Commercializing**" means to engage in Commercialization and "**Commercialized**" has a corresponding meaning.

1.27 "**Commercialization Budget**" means, the budget for activities under the applicable Commercialization Plan for each DT Co-Co Product.

1.28 "**Commercialization Costs**" means [***].

Notwithstanding any provision to the contrary set forth in this Agreement no Milestone Payment shall be considered a Commercialization Cost, and no expense included as a Commercialization Cost shall be included as an Eligible Development Cost, Eligible Medical Affairs Cost, Cost of Sales, or Other Operating Expense. Commercialization Costs specifically exclude any costs or expenses of a Party or its Affiliates to the extent caused by such Party or its Affiliate's breach of this Agreement.

1.29 "**Commercially Reasonable Efforts**" means [***].

1.30 "**Control**" or "**Controlled**" means, with respect to any materials, Know-How, Patents, or other intellectual property rights, that a Party or any of its Affiliates has the legal authority or right (whether by ownership, license, or otherwise) to grant to the other Party a license, covenant not to sue, sublicense, access, or right to use (as applicable) under such materials, Know-How, Patents, or other intellectual property rights, on the terms and conditions set forth herein, in each case without violating any obligations of the granting Party owed to a Third Party, breaching the terms of any agreement with a Third Party or subjecting the granting Party to any fee or charge in addition to the fees or charges the Parties have agreed to pay pursuant to this Agreement. Notwithstanding the foregoing, any New Affiliate of a Party shall not be considered an Affiliate of such Party for the purposes of this definition, provided that such New Affiliate is not utilizing the Metagenomi Licensed Collaboration Technology or the Moderna Licensed Collaboration Technology with respect to the activity that would otherwise be restricted under Sections 5.20 (RT Exclusivity), 5.21 (DT Exclusivity), or 5.22 (DT Co-Co Target Exclusivity), as applicable.

1.31 "**Cost of Sales**" means, with respect to a given Calendar Quarter, the aggregate Manufacturing Costs (calculated in accordance with U.S. GAAP) for all DT Co-Co Products sold in the Territory during such Calendar Quarter. Cost of Sales also includes royalties payable to Third Parties, if any, cost of shipping to customers, and applicable warehousing and insurance costs.

1.32 "**Cover**" means, with respect to a claim of a Patent and a given Collaboration Target or Product or a given item of Know-How, that such claim would be infringed, absent a license, by the making, use, importation, exportation, offering for sale, sale, or other Exploitation of such Collaboration Target or Product or such item of Know-How (considering claims of patent applications to be issued as then pending).

1.33 "**Data Package**" means, on a Collaboration Target-by-Collaboration Target basis, the package of data (e.g., results, data (including raw data and summaries thereof), conclusions and findings) to be generated pursuant to the Program Plan for such Collaboration Target, including for purposes of demonstrating achievement of indicated success criteria. For clarity, the specific contents of each Data Package shall be determined by the JSC and set forth in the applicable Program Plan and ownership of the contents shall be determined in accordance with Section 8.1.2 (Ownership of Intellectual Property).

1.34 "**DC Nomination**" means the nomination of a DT Co-Co Candidate by the JSC to advance to IND-enabling studies, including, without limitation, any GLP Toxicology Studies. A DT Co-Co Candidate that has been so nominated shall become a DT Co-Co Product.

1.35 "**Development**" means all internal and external research, development, and regulatory activities regarding pharmaceutical or biologic products, including (a) research, non- clinical testing, toxicology, route of synthesis, non-clinical activities, pre-clinical studies, and Clinical Trials (including any Phase IV Required Clinical Trial, but expressly excluding Phase IV Optional Clinical Trials), and (b) preparation, submission, review, and development of data or information for the purpose of submission to a Regulatory Authority to obtain authorization to conduct Clinical Trials and to obtain, support, or maintain Regulatory Approval of a Product, but excluding activities directed to Manufacturing or Commercialization. Development shall include development and regulatory activities for additional forms, formulations, or Indications for a Product after receipt of Regulatory Approval of such Product, including Clinical Trials initiated following receipt of Regulatory Approval or any Clinical Trial to be conducted after receipt of Regulatory Approval that was mandated by the applicable Regulatory Authority as a condition of such Regulatory Approval with respect to an approved formulation or Indication (such as post-marketing studies and observational studies, if required by any Regulatory Authority in any country in the Territory to support or maintain Regulatory Approval for a Product in such country). "**Develop**," "**Developing**," and "**Developed**" shall be construed accordingly.

1.36 "**Development Budget**" means, the budget for activities under the applicable Development Plan for each DT Co-Co Product.

1.37 "**Development Costs**" means [***].

1.38 "**Directed Against**" means [***].

1.39 "**Distribution Matters**" means all issues and decisions regarding the distribution of DT Co-Co Products, including decisions as to whether and with which wholesalers and distributors to contract, and the terms of contracts with such wholesalers and distributors.

1.40 "**Divestiture**" means the sale or transfer of rights to the Competing Program by Metagenomi (or its Affiliate) to a Third Party.

1.41 "**DMF**" means any drug master file filed with the FDA, and any equivalent filing in other countries or regulatory jurisdictions, or any other mechanism for achieving the purposes of a drug master file in any jurisdiction where there is no equivalent.

1.42 "**Dollar**" means a U.S. dollar, and "**$**" is to be interpreted accordingly.

1.43 "**Donor Template**" means [***].

1.44 **"DT Co-Co Candidate"** means [***].

1.45 **"DT Co-Co Product**" means a DT Co-Co Candidate nominated through DC Nomination for further Development in the DT Co-Co Program.

1.46 "**DT Co-Co Research Costs**" means [***].

1.47 "**DT Co-Co Target**" means the target identified in **Schedule A** (DT Co-Co Target).

1.48 "**DT Field**" means *in vivo* Gene Editing for a therapeutic, ameliorative or prophylactic application by way [***].

1.49 "**DT In-Licenses**" means DT Moderna In-License Agreements or DT Metagenomi In-License Agreements, as applicable.

1.50 "**DT Moderna Research Term**" means the period that commences on the Effective Date and continuing until four (4) years after the Effective Date, unless earlier terminated pursuant to this Agreement.

1.51 "**DT Option Fee"** means ten million Dollars ($10,000,000) for each DT Moderna Research Program with respect to which Moderna has exercised a DT Option.

1.52 "**DT Program Know-How**" means, with respect to a Party, on a DT Program-by- DT Program basis, all materials and Know-How that comes into the Control of such Party or any of its Affiliates during the Term for such DT Moderna Research Program that relates or otherwise pertains to such DT Program, including that (a) relates or otherwise pertains to the DT Moderna Target of such DT Program, (b) is otherwise necessary or useful in Researching, Developing, Manufacturing, Commercializing or otherwise Exploiting Licensed Products Directed Against such DT Moderna Target in the DT Field in the Territory or (c) [***] (a), (b) and (c) to the extent Moderna makes any of the foregoing available to Metagenomi pursuant to this Agreement. For clarity, "DT Program Know-How" includes all of such Party's rights in its solely-owned Program Technology constituting materials and Know-How that satisfy the foregoing, and any jointly-owned Know-How within the Program Technology that satisfies the foregoing.

1.53 "**DT Program Patents**" means all Patents that Cover any of the DT Program Know-How. For clarity, DT Program Patents include any Joint Patents that satisfy the foregoing.

1.54 "**DT Program Technology**" means the DT Program Know-How and the DT Program Patents.

1.55 "**DT Targets**" means the DT Moderna Targets and the DT Co-Co Target.

1.56 "**Eligible Co-Co Research Cost**" means [***].

1.57 "**Eligible Development Costs**" means [***].

1.58 "**Eligible Medical Affairs Costs**" means [***].

1.59 "**EMA**" means the European Medicines Agency or any successor agency thereto.

1.60 "**E.U.**" means the European Union.

1.61 "**Ex-U.S.**" means all countries in the Territory other than the U.S.

1.62 "**Executive Officers**" means [***].

1.63 "**Exploit**" means to make, use, offer to sell, sell, import, export, practice, research, develop, manufacture, commercialize or otherwise exploit (including Research, Develop, Manufacture, perform Medical Affairs activities and Commercialize Products), and have others do the same. "**Exploitation**" and "**Exploiting**" shall be construed accordingly.

1.64 "**External Costs**" mean [***].

1.65 "**FD&C Act**" means the United States Federal Food, Drug and Cosmetic Act, as amended.

1.66 "**FDA**" means the United States Food and Drug Administration or any successor agency thereto.

1.67 "**Field**" means all uses, including any and all uses for the diagnosis, prevention, amelioration, and treatment of any disease or medical condition.

1.68 "**Firewall Period**" means, with respect to a Competing Program of an Acquirer of a Party, the period commencing on the applicable Firewall Event and ending on the earlier of: (a) Divestiture of the Competing Program by such Acquirer; and (b) the expiration of such Party's exclusivity obligations under this Agreement (in respect of the relevant Competing Program).

1.69 "**Firewalls**" means effective walls and screens established between a Party, on the one hand, and on the other hand, an Acquirer of such Party which has a Competing Program, to ensure that no non-public information, materials (such as lab notebooks, document management systems or other documented or memorialized Know-How) or non-personnel resources directly relating to any RT Targets, DT Targets, Candidates, Products, or the Program, or any non-public information, materials or non-personnel resources relating to Patents provided, or made accessible, to such Party by the other Party are accessible by personnel of the Acquirer working on the Competing Program during the Firewall Period. For purposes of this definition, "Firewalls" shall include, during the Firewall Period, as necessary to satisfy this definition: (a) walls and screens (whether technical or physical) between (i) on the one hand, personnel of such Party performing Research or Development activities under, or otherwise working on or involved with, the Program or having access to any of the other Party's Licensed Collaboration Technology, non-public materials (such as lab notebooks, document management systems or other forms in which such Know-How may be memorialized) or non-personnel resources, in each case, directly relating to the Program (all of the foregoing, collectively, "**Collaboration Personnel**") and (ii) on the other hand, personnel of an Acquirer working on the Competing Program, or having access to any nonpublic materials (such as lab notebooks, document management systems or other forms in which such Know-How may be memorialized) or non-personnel resources, in each case, directly relating to the Competing Program (all of the foregoing, collectively, "**Competing Program Personnel**"); and (b) processes ensuring that (i) Collaboration Personnel do not perform any Research or Development activities under the Competing Program or have access to any non-public materials

(such as lab notebooks, document management systems or other forms in which such Know-How may be memorialized) or non-personnel resources, in each case, directly relating to the Competing Program and (ii) Competing Program Personnel do not perform Research or Development activities or any other work under the Program or have access to any of the other Party's Licensed Collaboration Technology, non-public materials (such as lab notebooks, document management systems or other forms in which such Know-How may be memorialized) or non-personnel resources, in each case, directly relating to the Program. Notwithstanding the foregoing, "**Firewalls**" shall not (i) require activities specific to the Program to be performed in a separate facility than activities that are specific to the Competing Program, provided that the activities specific to the Program are performed in a different location within such facility than the activities specific to the Competing Program, (ii) restrict Collaboration Personnel from working together with Competing Program Personnel on Exploitation of any compound or product that is neither the subject of the Program nor the subject of the Competing Program, or (iii) restrict executive officers or members of the board of directors of such Party or its Affiliates, including the Acquirer, from accessing or receiving disclosure of information solely as necessary to enable executive officers and the board of directors to comply with (x) their fiduciary obligations to such Party or its Affiliates or (y) Applicable Laws; provided that such executive officers or members of the board of directors are prohibited from using any information pertaining to the Program or any other activities covered under this Agreement to inform or make decisions regarding or relating to any Competing Programs.

1.70 "**First Commercial Sale**" means the first sale of a Product by a Party or its Affiliates or their Sublicensees to a Third Party (excluding any Sublicensee) for end use or consumption of such Product in a given country after Regulatory Approval and any Pricing and Reimbursement Approvals required to market and sell the Product has been granted with respect to such Product in such country in which such Product is sold. Furthermore, for purposes of clarity, the term "First Commercial Sale" as used in this Agreement shall not include: (a) sales for purposes of testing any Product, or of any Product samples; (b) any distribution or other sale solely for so- called treatment investigational new drug sales, named patient sales, compassionate or emergency use sales or pre-license sales, in each case provided that such Product is distributed without charge or sold at or below cost; (c) any sale of a Product by a Party to its Affiliate (or their Sublicensees), unless there is a subsequent resale of the Product by such Affiliate or Sublicensee; nor (d) other similar non-commercial sales.

1.71 "**FTE**" means a qualified full time person, or more than one person working the equivalent of a full-time person performing activities under a Program Plan, where "full time" is based upon a total of [***] working hours per Calendar Year. For clarity, no individual person can ever constitute more than a single FTE.

1.72 "**FTE Rate**" means [***] per FTE per Calendar Year, which shall be prorated for the period beginning on the Effective Date and ending on December 31, 2021, and which rate is subject to annual adjustment in each Calendar Year during the Term as agreed by the JSC based on the percentage increase or decrease in the Consumer Price Index for All Urban Consumers (CPI-U) published by the U.S. Bureau of Labor Statistics as of December 31 of each Calendar Year, over the level of such Consumer Price Index as of December 31 of the prior Calendar Year, with the first such increase to be effective on January 1, 2022. Notwithstanding the foregoing, for any Calendar Year during the Term that is less than a full year, the above referenced rate shall be proportionately reduced to reflect such portion of such full Calendar Year.

1.73 "**Gene Editing**" or "**Gene-Editing**" means [***].

1.74 "**GLP Tox Commitment Date**" means [***].

1.75 "**GLP Toxicology Study**" means, with respect to a Candidate or a Product, an *in vivo* toxicology study that is conducted in compliance with then-current Good Laboratory Practices.

1.76 "**Good Clinical Practices**" or "**GCP**" means the then-current good clinical practice standards, practices, and procedures promulgated or endorsed by the applicable Regulatory Authority as set forth in the guidelines imposed by such Regulatory Authority or Applicable Law, as each may be updated from time-to-time, to the extent such standards are not less stringent than applicable U.S. standards or ICH Guidelines, including ICH E6.

1.77 "**Good Laboratory Practices**" or "**GLPs**" means all applicable Good Laboratory Practice standards, including, as applicable: (a) as set forth in the then-current good laboratory practice standards promulgated or endorsed by the FDA as defined in 21 C.F.R. Part 58; and (b) the equivalent Applicable Laws in any relevant country, each as may be amended and applicable from time to time.

1.78 "**Good Manufacturing Practices**" or "**GMP**" means the then-current good manufacturing practice standards, practices, and procedures promulgated or endorsed by the applicable Regulatory Authority as set forth in the guidelines imposed by such Regulatory Authority or Applicable Law, as each may be updated from time-to-time, to the extent such standards are not less stringent than applicable U.S. standards as provided in, but not limited to, 21 C.F.R. Parts 210 and 211, or ICH Guidelines, including ICH Q7.

1.79 "**Good Research Practices**" or "**GRP**" means research practices consistent with the Research Quality Association (RQA), 2014 Quality in Research Guidelines for Working in Non-Regulated Research, as may be amended and applicable from time to time.

1.80 "**Government Official**" means: (i) any officer, employee (including physicians, hospital administrators, or other healthcare professionals), agent, representative, department, agency, de facto official, representative, corporate entity, instrumentality or subdivision of any government, military or international organization, including any ministry or department of health or any state-owned or affiliated company or hospital; (ii) any candidate for political office, any political party or any official of a political party, in each case for the purpose of obtaining or retaining business for or with, or directing business to, any Person, including either Party; or (iii) any Person acting in an official capacity on behalf of any of the foregoing.

1.81 "**Governmental Authority**" means any national, international, federal, state, provincial or local government, or political subdivision thereof, or any multinational organization or any authority, agency or commission entitled to exercise any administrative, executive, judicial, legislative, police, regulatory or taxing authority or power, and any court or tribunal (or any department, bureau or division thereof, or any governmental arbitrator or arbitral body).

1.82 "**Guide**" means [***].

1.83 "**IND**" means an investigational new drug application filed with the FDA or any similar application filed with a Regulatory Authority in a country other than the U.S. required to commence Clinical Trials of a pharmaceutical product.

1.84 "**IND Filing**" means, on a Program-by-Program basis, the filing of an IND for a Product in such Program.

1.85 "**Indication**" means a disease (a) for which a Product is indicated for treatment and (b) that is described in the Product label as required by the Regulatory Approval granted by the applicable Regulatory Authority. An Indication is only distinct from another Indication if (a) the diseases associated with such Indications are listed in two different blocks of the ICD-10 and (b) Regulatory Approvals are based, in whole or in part, on separate clinical studies.

1.86 "**Initial DT Co-Co Research Term**" means the period that commences on the Effective Date and continuing until [***] after the Effective Date, unless earlier terminated pursuant to this Agreement.

1.87 "**Initiation**" means, with respect to a Clinical Trial, the first dosing in the first human subject in such Clinical Trial.

1.88 "**Internal Compliance Codes**" means a Party's internal policies and procedures intended to ensure that a Party complies with Applicable Laws, Party-Specific Regulations, and such Party's internal ethical, medical and similar standards.

1.89 "**Internal Costs**" means [***].

1.90 "**Joint Patents**" means any Patents that Cover any Joint IP.

1.91 "**Know-How**" means any proprietary scientific or technical information, inventions, discoveries, results and data of any type whatsoever, in any tangible or intangible form, including inventions, discoveries, databases, safety information, practices, methods, instructions, techniques, processes, drawings, documentation, specifications, formulations, formulae, knowledge, knowhow, trade secrets, materials, skill, experience, test data and other information and technology applicable to formulations, compositions or products or to their manufacture, development, registration, use, marketing or sale or to methods of assaying or testing them, including pharmacological, pharmaceutical, medicinal chemistry, biological, chemical, biochemical, toxicological and clinical test data, physical and analytical, safety, quality control data, manufacturing, and stability data, materials, studies and procedures, and manufacturing process and development information, results and data.

1.92 "**Licensed Collaboration Technology**" means the Metagenomi Licensed Collaboration Technology or the Moderna Licensed Collaboration Technology, as applicable.

1.93 "**Licensed DT Co-Co Technology**" means the Metagenomi Licensed DT Co-Co Technology or the Moderna Licensed DT Co-Co Technology, as applicable.

1.94 "**Licensed DT Product**" means [***].

1.95 "**Licensed Product**" means a Licensed DT Product or a Licensed RT Product.

1.96 "**Licensed RT Product**" means [***].

1.97 "**Licensing Income**" means all amounts (including upfront payments, license fees, and milestone payments) received by a Party or any of its Affiliates from any licensee or sublicensee in consideration for the grant by such Party or any of its Affiliates of a license or sublicense of any of the rights granted under this Agreement with respect to a DT Co-Co Product in the Territory in accordance with Section 5.7.1 (Rights to Grant Licenses and Sublicenses in the Territory). Notwithstanding the foregoing, Licensing Income shall exclude any such payment received by a Party or any of its Affiliates from any such sublicensee in return for, as payment or consideration for, or otherwise in respect of: (a) equity or debt of a Party or its Affiliate purchased by such sublicensee at or below the fair market value of such equity or debt as of the date of the purchase, (b) reimbursement of such Party or its Affiliates' actual Manufacturing Costs of DT Co-Co Products with no markup, (c) reimbursement with no markup for the performance of services by such Party or its Affiliate under any such sublicense, (d) reimbursement of such Party's or its Affiliate's External Costs and other expenses, including patent expenses, (e) the sale of a Party or its Affiliate in whole or in part to a Third Party, or (f) a bona-fide loan, provided that any loan amounts that are forgiven shall be included in Licensing Income to the extent not otherwise captured in the foregoing clauses (a) – (e). Licensing Income in the form of non-cash consideration shall be valued at fair market value at the time of receipt by the relevant Party. In addition, (i) to the extent that a payment not explicitly tied to the DT Co-Co Product is made under a sublicense agreement that grants rights to both the DT Co-Co Product and one or more other products (*e.g.*, an upfront payment), then a *pro rata* portion of such payment shall be determined by agreement of the Parties reached in good faith based on an equitable method of determining the same that takes into account the relative fair market value of the sublicense, which shall be considered Licensing Income which such *pro rata* portion shall be calculated based on the number of products with respect to which rights are granted under such a sublicense agreement and (ii) to the extent that a payment is made under a sublicense that grants rights to the DT Co-Co Product in the Territory, then a *pro rata* portion of such payment shall be considered Licensing Income, which *pro rata* portion shall be allocated based on the value of the rights granted in the Territory, in each case ((i) and (ii)), only if such amounts have not also been shared by the Parties as Eligible Development Costs, Eligible Medical Affairs Costs, Commercialization Costs, or Other Operating Expenses.

1.98 "**LNP**" means [***].

1.99 "**Mammalian Cell Milestone**" means [***].

1.100 "**Manufacture**" means, with respect to a Product, those manufacturing-related activities that support the Development (including the seeking and obtaining of Regulatory Approvals) and Commercialization of such Product, including manufacturing process development and scale-up, validation, qualification and audit of clinical and commercial manufacturing facilities, bulk production and fill/finish work, related quality assurance technical support activities and CMC Activities, and including the synthesis, manufacturing, processing, formulating, packaging, labeling, holding, quality control testing and release of such Product. "Manufacturing" and "Manufactured" have a correlative meaning.

1.101 "**Manufacturing Cost**" has the meaning set forth in **Schedule B** (Manufacturing Cost).

1.102 "**Material Communications**" means written, telephonic, or in-person communications from or with any Regulatory Authority (including any meeting minutes from any meetings with any Regulatory Authority) concerning any of the following: key product quality attributes (*e.g.*, purity), safety findings affecting the platform (*e.g.*, Serious Adverse Events, emerging safety signals), clinical or non-clinical findings affecting patient safety, lack of efficacy, receipt or denial of Regulatory Approval, the design of Clinical Trials, or the need for additional non-clinical studies or pre-clinical studies (*e.g.*, additional toxicology or carcinogenicity studies).

1.103 "**Materials**" means any tangible chemical or biological material, including any compounds, DNA and RNA, mRNA Constructs, polypeptides, clones, cells, plasmids, lipids, vectors, receptors, any other nucleic acids and Polynucleotides, proteins, peptides and any expression product, progeny, derivative or other improvement thereto, along with any tangible chemical or biological material embodying any Know-How.

1.104 "**Medical Affairs**" means activities conducted by, on behalf of, or in consultation with a Party's medical scientific affairs departments, including medical affairs, field medical (medical scientific liaisons and payor liaisons), medical information and health economics outcomes research, development and execution of strategic and tactical medical product plans, generation of clinical and health economic outcomes data via post hoc analyses, Phase IV Optional Clinical Trials and real world evidence studies; development of economic models, production of value dossiers, key opinion leader strategy development and communications, generation and execution of responses to medical information requests, publication of scientific findings, presentations at medical scientific congresses and virtual medical engagements; medical education, symposia, congresses, advisory boards (to the extent related to Medical Affairs or clinical guidance), conducting health economics and outcomes research, conducting medical science liaison activities, activities performed in connection with patient registries, and other medical programs and communications, including continuing education grants, and research grants (including conducting investigator-initiated studies), to the extent related to medical scientific affairs and not to other activities that involve the promotion, marketing, sale, or other Commercialization of the DT Co-Co Products.

1.105 "**Medical Affairs Budget**" means, the budget for activities under the applicable Medical Affairs Plan for each DT Co-Co Product.

1.106 "**Medical Affairs Costs**" means [***].

1.107 "**Metagenomi Housemarks**" means (a) the corporate logo of Metagenomi, (b) the trademark "Metagenomi", (c) any other Trademark, trade name, or service mark (whether registered or unregistered) containing the word "Metagenomi", (d) any other corporate logo or Trademark of Metagenomi used by Metagenomi to identify Metagenomi or any of its Affiliates, and (e) all intellectual property rights and goodwill associated with any and all of the foregoing in clauses (a) through (e).

1.108 “**Metagenomi Licensed Collaboration Technology**” means the Metagenomi Licensed DT Co-Co Technology, Licensed RT Technology and Licensed DT Moderna Technology.

1.109 “**Metagenomi Licensed DT Co-Co Know-How**” means all materials and Know-How that Metagenomi or any of its Affiliates Control as of the Effective Date or during the Term that (a) relates or otherwise pertains to the DT Co-Co Target or (b) is otherwise necessary or useful in Researching, Developing, Manufacturing, Commercializing or otherwise Exploiting DT Co-Co Products Directed Against such DT Co-Co Target in the DT Field in the Territory, in each case of (a) and (b), to the extent Metagenomi makes available or is required to make available to Moderna pursuant to this Agreement. For clarity, “Metagenomi Licensed DT Co-Co Know-How” includes all of Metagenomi’s rights in the Metagenomi Program Technology constituting materials and Know-How that satisfy the foregoing and Metagenomi’s interest in any jointly-owned materials or Know-How within the Program Technology that satisfies the foregoing.

1.110 “**Metagenomi Licensed DT Co-Co Patent**” means any Patent that Metagenomi or any of its Affiliates Control as of the Effective Date or during the Term that (a) Covers any of the Metagenomi Licensed DT Co-Co Know-How, (b) Covers or claims the DT Co-Co Target or (c) would otherwise Cover any of the Research, Development, Manufacture, Commercialization or other Exploitation of one or more DT Co-Co Products Directed Against such DT Co-Co Target in the DT Field in the Territory, in each case of (a), (b) and (c), to the extent Metagenomi makes available or is required to make available to Moderna pursuant to this Agreement. For clarity, “Metagenomi Licensed DT Co-Co Patent” includes all of Metagenomi’s rights in the Metagenomi Program Technology constituting Patents that satisfy the foregoing, and Metagenomi’s interest in any Joint Patent that satisfies the foregoing.

1.111 “**Metagenomi Licensed DT Co-Co Technology**” means, individually or collectively, the Metagenomi Licensed DT Co-Co Patents and Metagenomi Licensed DT Co-Co Know-How.

1.112 “**Moderna Housemarks**” means (a) the corporate logo of Moderna, (b) the trademark “Moderna”, (c) any other Trademark, trade name, or service mark (whether registered or unregistered) containing the word “Moderna”, (d) any other corporate logo or Trademark of Moderna used by Moderna to identify Moderna or any of its Affiliates, and (e) all intellectual property rights and goodwill associated with any and all of the foregoing in clauses (a) through (e).

1.113 “**Moderna Licensed Collaboration Technology**” means Moderna’s Background Technology, RT Program Technology, and DT Program Technology, and the Moderna Licensed DT Co-Co Technology.

1.114 "**Moderna Licensed DT Co-Co Know-How**" means all materials and Know-How that Moderna or any of its Affiliates Control as of the Effective Date or during the Term that (a) relates or otherwise pertains to the DT Co-Co Target or (b) is otherwise necessary or useful in Researching, Developing, Manufacturing, Commercializing or otherwise Exploiting DT Co-Co Products Directed Against such DT Co-Co Target in the DT Field in the Territory, in each case of (a) and (b), to the extent Moderna makes available to Metagenomi pursuant to this Agreement. For clarity, "Moderna Licensed DT Co-Co Know-How" includes all of Moderna's rights in the Moderna Program Technology constituting materials and Know-How that satisfy the foregoing, and Moderna's interest in any jointly-owned materials or Know-How within the Program Technology that satisfies the foregoing.

1.115 "**Moderna Licensed DT Co-Co Patent**" means any Patent that Moderna or any of its Affiliates Control as of the Effective Date or during the Term that (a) Covers any of the Moderna Licensed DT Co-Co Know-How, (b) Covers or claims the DT Co-Co Target or (c) would otherwise Cover any of the Research, Development, Manufacture, Commercialization or other Exploitation of one or more DT Co-Co Products Directed Against such DT Co-Co Target in the DT Field in the Territory, in each case of (a), (b) and (c), to the extent Moderna makes available to Metagenomi pursuant to this Agreement. For clarity, "Moderna Licensed DT Co-Co Patent" includes all of Moderna's rights in the Moderna Program Technology constituting Patents that satisfy the foregoing and Moderna's interest in any Joint Patent that satisfies the foregoing.

1.116 "**Moderna Licensed DT Co-Co Technology**" means, individually or collectively, the Moderna Licensed DT Co-Co Patents and Moderna Licensed DT Co-Co Know-How.

1.117 "**mRNA Construct**" means [***].

1.118 "**mRNA-LNP Technology**" means [***].

1.119 "**Mutual Confidentiality Agreement**" means that certain Mutual Confidentiality Agreement entered into between the Parties as of March 1, 2021.

1.120 "**NDA**" means (a) any New Drug Application (as defined in the FD&C Act), any Biologics License Application ("**BLA**") (as defined in the PHSA) and applicable regulations promulgated thereunder by the FDA filed with the FDA to gain approval to market a pharmaceutical product in the U.S., (b) a marketing authorization application ("**MAA**") filed with (i) the EMA under the centralized EMA filing procedure to gain approval to market a biopharmaceutical in the E.U., or (ii) a Regulatory Authority in any E.U. country if the centralized EMA filing procedure is not used to gain approval to market a biopharmaceutical in the E.U., or (c) any other equivalent or related Regulatory Filing filed in support of approval to market a biopharmaceutical in any country outside of the U.S. or E.U., and, in each case ((a) through (c)), including any amendments thereto, and supplemental applications, but excluding applications for Reimbursement Approval.

1.121 "**Net Sales**" means, with respect to any Product, the gross amounts invoiced by a Party (including any Affiliate of such Party) or any Sublicensee thereof (each, a "**Selling Party**") to Third Party customers for sales of such Product in the Territory, less the following deductions actually incurred, allowed, paid, accrued or specifically allocated in its financial statements for such Product, all in accordance with U.S. GAAP, consistently applied, for:

[***]

Such amounts shall be determined from the books and records of such Party or its Sublicensee maintained in accordance with U.S. GAAP or, in the case of Sublicensees, such similar accounting principles, consistently applied. Net Sales shall not be imputed to transfers of Products for use in clinical trials, non-clinical development activities or other development activities with respect to Products, as applicable, by or on behalf of the Parties, for bona fide charitable purposes or for compassionate use, patient program or for Product samples, if no monetary consideration exceeding the cost of goods for such Product is received for such transfers.

In the event that the Product is sold as part of a Combination Product (where "**Combination Product**" means [***], the Net Sales of such Product, for the purposes of determining royalty payments, shall be determined by multiplying the Net Sales of the Combination Product by the fraction, A / (A+B), where A is the weighted average sale price of the Product when sold separately for the same dosage as contained in the Combination Product in finished form, and B is the weighted average sale price of the Other Product(s) sold separately in finished form.

In the event that the weighted average sale price of the Product can be determined but the weighted average sale price of the Other Product(s) cannot be determined, Net Sales for purposes of determining royalty payments shall be calculated by multiplying the Net Sales of the Combination Product by the fraction A / C where A is the weighted average sale price of the Product when sold separately in finished form and C is the weighted average sale price of the Combination Product.

In the event that the weighted average sale price of the Other Product(s) can be determined but the weighted average sale price of the Product cannot be determined, Net Sales for purposes of determining royalty payments shall be calculated by multiplying the Net Sales of the Combination Product by the following formula: one (1) minus (B / C) where B is the weighted average sale price of the Other Product(s) when sold separately in finished form and C is the weighted average sale price of the Combination Product.

In the event that the weighted average sale price of both the Product and the Other Product(s) in the Combination Product cannot be determined, the Parties shall enter into good faith negotiations to determine the appropriate value to be allocated to the Product and the Other Product(s).

The weighted average sale price for a Product, Other Product, or Combination Product shall be calculated once each Calendar Year and such price shall be used during all applicable royalty reporting periods for the entire following Calendar Year. When determining the weighted average sale price of a Product, Other Product or Combination Product, the weighted average sale price shall be calculated by dividing the sales dollars (translated into U.S. dollars) by the units of active ingredient sold during the twelve (12) months (or the number of months sold in a partial Calendar Year) of the preceding Calendar Year for the respective Product, Other Product or Combination Product. In the initial Calendar Year, a forecasted weighted average sale price shall be used for the Product, Other Products or Combination Product. Any over or under payment in the initial year due to a difference between forecasted and actual weighted average sale prices shall be paid or credited in the first royalty payment of the following Calendar Year.

Adjuvants and excipients shall not be deemed to be "active compound(s) or ingredients" except where such adjuvant or excipient is recognized by the FDA as an active ingredient in accordance with 21 C.F.R. § 210.3(b)(7).

1.122 "**New Affiliate**" means a Third Party that becomes an Affiliate of a Party after the Effective Date through or after a Change of Control of such Party, other than (i) such Party, (ii) any Affiliates of such Party immediately before the consummation of such Change of Control, or (iii) any other Affiliates such Party or its pre-consummation Affiliates controls (directly or indirectly) after such Change of Control (including any direct or indirect subsidiaries of such Party or any such pre-consummation Affiliates).

1.123 "**NHP Milestone**" means [***].

1.124 "**Non-Orphan Indication**" mean an Indication other than an Orphan Indication.

1.125 "**Nonclinical Studies**" means all non-human animal studies, including preclinical studies and toxicology studies, of Products.

1.126 "**Operating Profits or Losses**" means the profits or losses for a DT Co-Co Product in the Territory calculated in accordance with Section 7.4 (Co-Co Products Profit and Loss Share).

1.127 "**Orphan Indication**" means an Indication for use of a drug to treat a rare disease or condition where the number of people affected by the disease or condition in the U.S. is less than two hundred thousand (200,000) persons or where the Indication for use otherwise meets the criteria for orphan drug designation under section 526(a) of the FD&C Act and 21 C.F.R. 316.21.

1.128 "**Other Operating Expenses**" means [***].

No expense included as an Other Operating Expense shall also be included as a deduction under Net Sales, Commercialization Cost, Eligible Development Cost, Cost of Sales, or Eligible Medical Affairs Cost. Other Operating Expenses specifically exclude any costs or expenses of a Party or its Affiliates to the extent caused by such Party or its Affiliate's breach of this Agreement.

1.129 "**Overspend**" means, for a particular DT Co-Co Product, any amount that exceeds Allowable Overruns for a Calendar Year on a year-to-date basis set forth in any Research Budget, Development Budget, Medical Affairs Budget, or Commercialization Budget, as applicable, for such Calendar Year; provided that such amount is not attributable to (a) the breach of this Agreement or (b) the gross negligence or willful misconduct of either Party or any of its Affiliates.

1.130 "**Packaging and Labeling**" means primary, secondary, or tertiary packaging and labeling of a DT Co-Co Product (in its commercial packaging presentation) for sale or use in the Territory, consistent with respect to the Commercialization Plan, including the Approved Labeling and insertion of materials such as patient inserts, patient medication guides, and professional inserts and any other written, printed, or graphic materials accompanying such DT Co-Co Product and any brand security or anti-counterfeiting measures included in the packaging elements for such DT Co-Co Product considered to be part of the finished packaged DT Co-Co Product, and all testing and release thereof.

1.131 "**Patents**" means: (a) pending patent applications, issued patents, utility models and designs; (b) reissues, substitutions, confirmations, registrations, validations, re-examinations, additions, continuations, continued prosecution applications, continuations-in-part, or divisions of or to any of the foregoing; and (c) extensions, renewals or restorations of any of the foregoing by existing or future extension, renewal or restoration mechanisms, including supplementary protection certificates or the equivalent thereof.

1.132 "**Person**" means any corporation, limited or general partnership, limited liability company, joint venture, trust, unincorporated association, governmental body, authority, bureau or agency, any other entity or body, or an individual.

1.133 "**Pharmacovigilance Costs**" means [***].

1.134 "**Phase I Clinical Trial**" means a clinical trial of a Product generally consistent with 21 C.F.R. § 312.21(a) (or the non-U.S. equivalent thereof).

1.135 "**Phase I Readout**" means the substantially final biostatistical analysis of primary and secondary clinical outcomes or endpoints, as applicable, for a Phase I Clinical Trial prior to the publication of the final clinical study report for such Phase I Clinical Trial.

1.136 "**Phase II Clinical Trial**" means a clinical trial of a Product generally consistent with 21 C.F.R. § 312.21(b) (or the non-U.S. equivalent thereof).

1.137 "**Phase III Clinical Trial**" means a clinical trial of a Product generally consistent with 21 C.F.R. § 312.21(c) (or the non-U.S. equivalent thereof).

1.138 "**Phase IV Optional Clinical Trial**" means any post-approval clinical study for a pharmaceutical or biologic product in a country with respect to any Indication for which Regulatory Approval has been received in a particular country, and that is principally intended to support the Commercialization of a product, including (a) investigator-initiated clinical studies initiated after Regulatory Approval of a product, (b) post-marketing surveillance studies of a product, and (c) any health and economic outcomes research and other reviews/analyses/studies relating to value and access issues, in each case, that is not a Phase IV Required Clinical Trial.

1.139 "**Phase IV Required Clinical Trial**" means any post-approval clinical study initiated following receipt of Regulatory Approval for a pharmaceutical or biologic product in a country in an Indication or to be conducted after receipt of Regulatory Approval of a product in an Indication, in each case, that was required by the applicable Regulatory Authority in any country in the Territory as a condition of receiving or maintaining a Regulatory Approval for such product with respect to such Indication in such country (such as post-marketing approval studies and observational studies, if required by any Regulatory Authority in any country in the Territory to support or maintain Regulatory Approval for such product in such Indication in such country).

1.140 "**PHSA**" means the United States Public Health Service Act, as amended.

1.141 "**Pivotal Trial**" means any (a) Clinical Trial in humans that meets the requirements of 21 C.F.R. § 312.21(c), as amended (or its successor regulation), or, with respect to any other country or jurisdiction, the equivalent of such a clinical trial in such other country or jurisdiction, or (b) other Clinical Trial of a pharmaceutical or biologic product, the results of which, together with prior data and information concerning such product, are intended to be or otherwise are sufficient, without any additional Clinical Trial, to meet the evidentiary standard for demonstrating the safety, efficacy, and of such active substance of such product established by a Regulatory Authority in any particular jurisdiction and is intended to support, or otherwise supports, the submission of an MAA in such jurisdiction (including any bridging study).

1.142 "**Polynucleotide**", [***].

1.143 "**Pricing and Reimbursement Approval**" means an approval, agreement, determination, or other decision by the applicable Governmental Authority that establishes prices charged to end-users for biopharmaceutical products that a pharmaceutical or biologic product shall be reimbursed by the Governmental Authorities or Regulatory Authorities in the Territory or any other approvals related to pricing, reimbursement, or access to a pharmaceutical or biologic product (including all activities related to tenders and contracts).

1.144 "**Pricing Matters**" means [***].

1.145 "**Product**" means Licensed Product or DT Co-Co Product, as the case may be.

1.146 "**Product Marks**" means any Trademark (whether registered or unregistered) for use on, with, or to refer to a DT Co-Co Product or used with patient support or other information or services or Product Materials associated with a DT Co-Co Product in the Territory during the Term, including related internet domain names.

1.147 "**Product Materials**" means any and all promotional materials, training materials, medical education materials, Packaging and Labeling, and all other literature or other information related to a DT Co-Co Product for use in the Territory.

1.148 "**Program**" means the RT Technology Research Program, the RT Preclinical Research Programs, the DT Target Evaluation Program, the DT Moderna Research Programs and the DT Co-Co Program, as the case may be. For clarity, references to a Program (and the underlying definitions) hereunder refer to such Program both during the Research Term and thereafter for the Term (including the applicable Collaboration Target and related Products).

1.149 "**Program Patents**" means all Patents that Cover any of the Program Technology.

1.150 "**Program Plan**" means the RT Technology Research Plan, the RT Preclinical Research Plan, the DT Target Evaluation Plan, the DT Moderna Research Plan or a DT Co-Co Plan, as applicable.

1.151 "**Prosecute and Maintain**" or "**Prosecution and Maintenance**" with respect to a particular Patent, means all activities associated with the preparation, filing, prosecution and maintenance of such Patent, together with the conduct of interferences, derivation proceedings, *inter partes* review and post-grant review, the defense of oppositions and other similar proceedings with respect to that Patent, but not including any activities associated with claims, including as a counterclaim or declaratory judgment action, of unpatentability, invalidity or unenforceability of such Patent that are brought by a Third Party, in connection with an Infringement under Section 8.3 (Infringement by Third Parties) or otherwise.

1.152 “**Region**” means (A) with respect to Moderna, Ex-U.S., and (B) with respect to Metagenomi, U.S.

1.153 “**Regulatory Approval**” means, collectively, any and all approvals (including supplements, amendments, pre- and post-approvals, Pricing and Reimbursement Approvals), licenses, registrations, permits, notifications, and authorizations (including marketing and labeling authorizations) or waivers of any Regulatory Authority that are necessary for the testing, research, development, registration, manufacture (including formulation), use, storage, import, export, transport, promotion, marketing, distribution, offer for sale, sale or other commercialization of a pharmaceutical product (including any Product) in any country or jurisdiction.

1.154 “**Regulatory Authority**” means any Governmental Authority that has responsibility in its applicable jurisdiction over the testing, research, development, registration, manufacture (including formulation), use, storage, import, export, transport, promotion, marketing, distribution, offer for sale, sale or other commercialization of pharmaceutical products (including any Product) in a given jurisdiction. For countries where governmental approval is required for pricing or reimbursement for a pharmaceutical product (including any Product) to be reimbursed by national health insurance (or its local equivalent), Regulatory Authority includes any Governmental Authority whose review or approval of pricing or reimbursement of such product is required.

1.155 “**Regulatory Costs**” means Internal Costs and External Costs incurred by either Party (or their Affiliates), as applicable, in connection with the preparation or maintenance of Regulatory Documentation with respect to the DT Co-Co Products, including any meetings with Regulatory Authorities in connection therewith and any filing, user, maintenance and other fees paid to Regulatory Authorities, preparation of Regulatory Filings for, and the obtaining and maintenance of Regulatory Approvals including compliance with Regulatory Approvals and requirements of such Regulatory Authorities, adverse event recordation and reporting and regulatory affairs activities.

1.156 “**Regulatory Documentation**” means all: (a) applications (including all INDs and applications for Regulatory Approval), registrations, licenses, authorizations and approvals (including Regulatory Approvals); (b) correspondence and reports submitted to or received from Regulatory Authorities (including minutes and official contact reports relating to any communications with any Regulatory Authority) and all supporting documents with respect thereto, including all adverse event files and complaint files; (c) supplements or changes to any of the foregoing following Regulatory Approval; and (d) clinical and other data, including Clinical Trial data, contained or relied upon in any of the foregoing; in each case ((a), (b), (c) and (d)) relating to a Collaboration Target and Products Directed Against a Collaboration Target.

1.157 “**Regulatory Exclusivity**” means, with respect to each Product in any country in the Territory, a period of exclusivity (other than Patents exclusivity) granted or afforded by Applicable Laws or by a Regulatory Authority in such country that prevents the approval or marketing of any Biosimilar Product of such Licensed Product in such country, including reference product exclusivity under Section 351(k)(7)(C) of the PHSA and pediatric exclusivity under Section 351(m) of the same and any foreign equivalents.

1.158 “**Regulatory Filings**” means all applications, filings, and dossiers, and other documents, data, results, and materials submitted to a Regulatory Authority in support of Development or Commercialization of a pharmaceutical or biologic product for an Indication, including for the purpose of obtaining Regulatory Approval from that Regulatory Authority. Regulatory Filings include all INDs, NDAs, BLAs and other applications for Regulatory Approval and their equivalents.

1.159 “**Regulatory Responsible Party**” means, with respect to a DT Co-Co Product, on a country-by-country basis in the Territory, (i) the Lead Party prior to any Opt-Out and the Opt-Out Date or (ii) the Primary Party after the Opt-Out Date.

1.160 “**Reimbursement Approval**” means an approval, agreement, determination, or other decision by the applicable Governmental Authority that establishes prices charged to end-users for biopharmaceutical products that a pharmaceutical or biologic product shall be reimbursed by the Governmental Authorities or Regulatory Authorities in the Territory or any other approvals related to pricing, reimbursement, or access to a pharmaceutical or biologic product (including all activities related to tenders and contracts).

1.161 “**Research**” means, with respect to a Collaboration Target, any research and pre- clinical activities through delivery of a Data Package for such Collaboration Target, as set forth in the applicable Program Plan for such Collaboration Target.

1.162 “**Research Budget**” means RT Research Budget, DT Moderna Research Budget, or DT Co-Co Research Budget, as applicable.

1.163 “**Research Costs”** means [***].

1.164 “**Research Term**” means (i) with respect to the RT Programs, the RT Research Term, (ii) with respect to the DT Programs, the DT Moderna Research Term, or (iii) with respect to the DT Co-Co Program, the Term.

1.165 “**Reserved DT Targets**” means any of the nine (9) targets identified in **Schedule D** (Reserved DT Targets).

1.166 “**Results**” means all data (including raw data that has not undergone any processing, either manually or through automated computer software, processed, distilled, analyzed or summarized data, and all representations of part or all of the data), results, findings, analyses and observations that are created or in any way generated by a Party or Third Parties acting on a Party’s behalf pursuant to this Agreement in the applicable Program. Results do not include Patents.

1.167 “**Rodent Milestone**” means [***].

1.168 “**RT Field**” means *in vivo* Gene Editing for a therapeutic, ameliorative or prophylactic application [***].

1.169 "**RT In-Licenses**" means RT Moderna In-License Agreements or RT Metagenomi In-License Agreements, as applicable.

1.170 "**RT Option Fee**" means ten million Dollars ($10,000,000) for each RT Preclinical Research Program with respect to which Moderna has exercised an RT Option.

1.171 "**RT Program Know-How**" means, with respect to a Party, on an RT Program-by- RT Program basis, all materials and Know-How that comes into the Control of such Party or any of its Affiliates during the Term that relates or otherwise pertains to such RT Program, including that (a) relates or otherwise pertains to the RT Target of such RT Program, (b) is otherwise necessary or useful in Researching, Developing, Manufacturing, Commercializing or otherwise Exploiting Licensed Products Directed Against such RT Target in the RT Field in the Territory, or (c) relates to novel delivery technology relevant to the RT Field, and in the case of Moderna, for each of (a), (b) and (c) to the extent Moderna makes any of the foregoing available to Metagenomi pursuant to this Agreement. For clarity, "RT Program Know-How" includes all of such Party's rights in its solely-owned Program Technology constituting materials and Know-How that satisfy the foregoing, and any jointly-owned materials or Know-How within the Program Technology that satisfies the foregoing.

1.172 "**RT Program Patents**" means all Patents that Cover any of the RT Program Know-How. For clarity, RT Program Patents include any Joint Patents that satisfy the foregoing.

1.173 "**RT Program Technology**" means the RT Program Know-How and the RT Program Patents.

1.174 "**RT Research Term**" means the period that commences on the Effective Date and continuing until [***] after the Effective Date (the "**Initial RT Research Term**"), as may be extended by Moderna pursuant to Section 3.8 (RT Research Term Extension), unless earlier terminated pursuant to this Agreement.

1.175 "**RT Research Term Extension Fee**" means, with respect to (i) extension of the Initial RT Research Term by [***]; (ii) extension of the Initial RT Research Term by [***]; and (iii) extension of the Initial RT Research Term by [***].

1.176 "**RT Target**" means [***].

1.177 "**RT Technology Milestones**" means, collectively, the Mammalian Cell Milestones, the Rodent Milestones and the NHP Milestones.

1.178 "**Safety Concern**" means, with respect to any Product, (a) any safety concern required to be reported under 21 C.F.R. § 312.32 if an IND with respect to such product was open at the time of the observation (or that would be so reportable if an IND was not open at such time), or (b) a toxicity or drug safety issue or a Serious Adverse Event reasonably related to or observed in connection with Development or Commercialization activities with respect to a Product, as determined by either Party, in accordance with its standard operating procedures.

1.179 "**Sales Force**" means the full set of sales representatives, field managers, district managers, regional managers, national sales managers, regional trainers, medical science trainers and the training department and other personnel assigned by the Parties for each DT Co-Co Product.

1.180 "**Serious Adverse Event**" means an adverse drug experience or circumstance that results in any of the following outcomes (a) death, (b) life threatening condition, (c) inpatient hospitalization or a prolongation of existing hospitalization, (d) persistent or significant disability or incapacity or substantial disruption of the ability to conduct normal life functions, (e) or a congenital anomaly/birth defect, (f) significant intervention required to prevent permanent impairment or damage, or (g) a medical event that may not result in death, be life threatening, or require hospitalization but, based on appropriate medical judgment, that may jeopardize the patient or subject and may require medical or surgical intervention to prevent one of the outcomes described in clauses (a) through (f).

1.181 "**Sublicensee**" means a Third Party that is granted a license or sublicense to research, develop, make, have made, use, keep, import, export, offer for sale, sell, or otherwise exploit one or more Products in the Field in the Territory (including any option to any of the foregoing), beyond the mere right to purchase such Products from a Party and its Affiliates, and excludes each Party's Affiliates or Third Party subcontractors that act solely for such Party or its Affiliates in the supply chain or that perform discrete services (as opposed to being granted broad rights or responsibilities) on behalf of such Party or its Affiliates.

1.182 "**Territory**" means worldwide.

1.183 "**Third Party**" means a Person other than (a) Moderna or its Affiliates and (b) Metagenomi or its Affiliates.

1.184 "**Third Party Payment**" means all milestone, royalty, and other payments (including required reimbursement for costs incurred in connection with enforcement or other actions and required sharing of certain recoveries) paid by a Party to any Third Party pursuant to a Co-Co In-License.

1.185 "**Trademark**" means any trademark, trade name, service mark, service name, product name, brand, domain name, trade dress, logo, slogan, or other indicia of origin or ownership, and (a) all registrations, applications for registrations, and other intellectual property rights associated with any of the foregoing, and (b) the goodwill associated with each of the foregoing.

1.186 "**U.S.**" means the United States of America and its territories and possessions.

1.187 "**U.S. GAAP**" means generally accepted accounting principles as practiced in the U.S., as generally and consistently applied throughout each Party's organization.

1.188 "**Valid Claim**" means a claim of any pending Patent application or any issued, unexpired U.S. or granted foreign Patent that has not been dedicated to the public, disclaimed, abandoned or held invalid or unenforceable by a court or other body of competent jurisdiction from which no further appeal can be taken, and that has not been explicitly disclaimed, or admitted in writing to be invalid or unenforceable or of a scope not Covering a particular product or service through reissue, disclaimer or otherwise, provided *that* if a particular claim has not issued within seven (7) years of its initial priority date, it shall not be considered a Valid Claim for purposes of this Agreement unless and until such claim is included in an issued or granted Patent, notwithstanding the foregoing definition.

1.189 **Additional Definitions**. These additional definitions have the meaning set forth in the following Sections:

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Article 2
GOVERNANCE AND JOINT STEERING COMMITTEE

2.1 **Alliance Manager**. Within thirty (30) days following the Effective Date, each Party shall appoint an individual to act as the Alliance Manager for such Party (each, an "**Alliance Manager**"). Each Alliance Manager shall thereafter be permitted to attend meetings of the JSC or any of its subcommittees as a nonvoting observer. The Alliance Managers shall be the primary point of contact for the Parties regarding the collaboration activities contemplated under this Agreement and shall help facilitate all such activities hereunder.

2.2 **Working Groups**. The Parties shall establish one or more working groups (each, a "**Working Group**") to oversee the activities of the Program Plans. In addition, from time to time, the Parties may establish a Working Group to oversee particular additional projects or activities. Each Working Group shall undertake the activities delegated to it by the JSC. During the process of establishing each Working Group, such Working Group and the JSC shall agree regarding which matters such Working Group shall resolve on its own and which matters such Working Group shall advise the JSC regarding (and with respect to which such advice-specific matters the JSC shall resolve).

2.3 **Joint Steering Committee**. Within thirty (30) days after the Effective Date, the Parties shall establish a cross-functional, joint steering committee (the "**JSC**") composed of up to three (3) senior representatives from each Party that shall oversee and manage the collaboration between the Parties with respect to each Program during the applicable Term. The JSC may, from time to time, establish subcommittees as it deems necessary to further the purposes of this Agreement; provided that the JSC shall in any event establish (i) a joint research subcommittee ("**JRC**") in accordance with Section 2.6 (Joint Research Committee), (ii) a joint development subcommittee ("**JDC**") in accordance with Section 2.7 (Joint Development Committee), (iii) a joint commercialization subcommittee ("**JCC**") in accordance with Section 2.8 (Joint Commercialization Committee), and (iv) a joint patent subcommittee ("**JPC**") in accordance with Section 2.9 (Joint Patent Committee). Each Party shall appoint its respective representatives to the JSC from time to time, and may change its representatives, in its sole discretion, effective upon notice to the other Party designating such change. The representatives from each Party shall have appropriate technical credentials, experience and knowledge pertaining to and ongoing familiarity with the Research and the applicable Programs. One (1) of the Moderna representatives and one (1) of the Metagenomi representatives on the JSC shall be designated the JSC Co-Chairs (each, a "**JSC Co-Chair**"). The JSC Co-Chairs shall be responsible for calling meetings of the JSC, circulating agendas and performing administrative tasks required to assure efficient operation of the JSC but shall not have any extra or additional vote.

2.4 **Specific Responsibilities of the JSC**. The JSC shall:

2.4.1 discuss, and approve each Research Budget and applicable Program Plan (including the specific contents of each Data Package) and, for the DT Co-Co Program, the criteria for DC Nomination, and review, discuss, and approve any amendments that may be necessary or desired to each Research Budget and applicable Program Plan;

2.4.2 address issues arising in the performance of the applicable Program Plans;

2.4.3 determine whether a Program Plan has been completed;

2.4.4 establish subcommittees, direct and oversee any operating subcommittee on all significant issues, and resolve disputed matters that may arise at the subcommittees;

2.4.5 review, discuss, and determine whether to approve the Commercial Overhead Charge, as described in Section 1.25 ("**Commercial Overhead Charge**");

2.4.6 review, discuss, and determine whether to approve as Allowable Overruns any amounts that are more than [***] above the most recent JSC-approved budgeted costs and expenses for a Calendar Year on a year-to-date basis set forth in any Research Budget, Development Budget, Medical Affairs Budget, or Commercialization Budget, as applicable, for such Calendar Year, as described in Section 1.2 ("**Allowable Overruns**");

2.4.7 review, discuss, and determine whether to approve any changes in the FTE Rate, as described in Section 1.72 ("**FTE Rate**");

2.4.8 review, discuss, and determine whether to approve each update to each applicable Program Plan, including any significant financial review, in each case, proposed by the Parties or a JSC subcommittee;

2.4.9 review, discuss, and determine whether to approve any Overspend for a DT Co-Co Product, as described in Sections 6.3.2 (Eligible Co-Co Research Cost), 6.4.4(a) (Eligible Development Costs), 6.6.3 (Medical Affairs Costs) and 6.7.3 (Commercialization Costs and Expenses);

2.4.10 review, discuss, and determine whether to approve any proposal to add a Proposed Combination Product to the Development Plan for a DT Co-Co Product, as described in Section 6.4.8 (Combination Products);

2.4.11 review, discuss, and determine whether to approve Pricing and Reimbursement Approvals for the DT Co-Co Products in accordance with Section 6.7.5 (Pricing Matters; Pricing and Reimbursement Approvals; Information Sharing; Pricing Strategy);

2.4.12 perform such other functions as appropriate, and direct each subcommittee to perform such other functions as appropriate, to further the purposes of this Agreement, in each case as agreed in writing by the Parties;

2.4.13 resolve all matters that are in dispute as escalated to the JSC by a subcommittee that cannot be resolved by such subcommittee; and

2.4.14 perform any and all tasks and responsibilities that are expressly attributed to the JSC under this Agreement or as otherwise agreed by the Parties in writing.

2.5 **Meetings**. The JSC and each of its subcommittees shall each meet at least once per Calendar Quarter during the Research Term, and more often as may be necessary. The JSC and each of its subcommittees may conduct such meetings by telephone, videoconference, internet meeting or in person, as determined by their members for each meeting. Each Party may call special meetings of the JSC or any of its subcommittees with at least ten (10) Business Days' prior written notice, or a shorter time period in exigent circumstances, to resolve particular matters requested by such Party that are within the purview of the JSC or the subcommittee, as applicable. Each Party may invite a reasonable number of participants, in addition to its representatives, to attend JSC and subcommittee meetings in a nonvoting capacity; provided that if either Party intends to have any Third Party (including any consultant) attend such a meeting, such Party shall provide prior written notice to the other Party. Such Party shall ensure that such Third Party is bound by confidentiality and non-use obligations consistent with the terms of this Agreement. Each Party is responsible for its own expenses incurred in connection with participating in and attending all such meetings. Each Party's Alliance Manager or his/her designee shall keep minutes of each JSC and subcommittee meeting that records in writing all decisions made, action items assigned or completed and other appropriate matters. Each Party's Alliance Manager shall help consolidate and then send meeting minutes to all members of the JSC or the subcommittee, as applicable, promptly after a meeting for review. Each member shall have ten (10) Business Days from receipt in which to comment on and to approve the minutes (such approval not to be unreasonably withheld, conditioned or delayed). If a member, within such time period, does not notify either Party's Alliance Manager that s/he does not approve of the minutes, the minutes shall be deemed to have been approved by such member.

2.6 **Joint Research Committee**.

2.6.1 The JSC shall establish the JRC, consisting of an equal number of subject matter experts from each of Moderna and Metagenomi, within five (5) days after the establishment of the JSC (or such longer period of time as mutually agreed by the Parties), each Party shall designate in writing three such representatives for the JRC. The JRC may elect to vary the number of representatives from time to time. Either Party may replace its representatives with similarly qualified individuals at any time upon prior written notice to the other Party (including via email notification). If agreed by the JRC on a case-by-case basis (such agreement not to be unreasonably withheld, conditioned, or delayed), the JRC may invite other personnel of either Party from relevant support functions to participate in the discussions and meetings of the JRC, provided that such participants shall have no voting authority at the JRC and that any non-employee participants are bound by written obligations of non-use and confidentiality and obligations to assign intellectual property that are at least as restrictive or protective of the Parties and their respective intellectual property and Confidential Information as those set forth in this Agreement.

2.6.2 **Specific responsibilities of the JRC**. The JRC shall have the following responsibilities:

(a) discuss, prepare and submit to the JSC for approval each Research Budget and Program Plan (including the specific contents of each Data Package) and, for the DT Co-Co Program, the criteria for DC Nomination, and all annual and interim amendments to each Research Budget and Program Plan;

(b) determine whether a DT Co-Co Candidate has met the approved criteria for DC Nomination;

(c) monitor and report the progress of the Research activities and ensuring open and frequent exchange between the Parties;

(d) identify and resolve any scientific or technical conflicts between the Parties;

(e) review, modify and oversee the implementation of each Program Plan including coordination of Research activities between the Parties;

(f) coordinate with the JPC all patent activities as they relate to the results of the Research activities in keeping with the overall patent strategy delineated by the JPC;

(g) take such action that is contemplated for the JRC to take under this Agreement; and

(h) perform such other functions as directed by the JSC in accordance with Section 2.4.12 (Specific Responsibilities of the JSC).

2.7 **Joint Development Committee**.

2.7.1 **General**. Within thirty (30) days after DC Nomination, or earlier as determined by the JSC, the Parties shall establish the JDC to coordinate the Development activities (including the related regulatory activities) of the Parties related to the Development of DT Co-Co Candidate in accordance with the Development Plan. Each Party shall initially appoint three (3) representatives to the JDC, with each representative having knowledge and expertise in the development of compounds and products similar to the DT Co-Co Candidates and the DT Co-Co Products and having sufficient seniority within the applicable Party to make decisions arising within the scope of the JDC's responsibilities. The JDC may change its size from time to time; provided, that the JDC shall consist at all times of an equal number of representatives of each Party. Each Party may replace any of its JDC representatives with a qualified employee of such Party at any time upon written notice to the other Party. The JDC may invite non-members to participate in the discussions and meetings of the JDC; provided, that such participants shall have no voting authority at the JDC and shall be bound by the confidentiality obligations no less stringent than those provided in this Agreement. The JDC shall have two (2) co-chairpersons, one from each Party. The role of the co-chairpersons shall be to convene and preside at meetings of such JDC. The Alliance Managers shall work with the co-chairpersons to prepare and circulate agendas and to ensure the preparation of minutes. The co-chairpersons shall have no additional powers or rights beyond those held by the other JDC representatives.

2.7.2 **Specific Responsibilities of the JDC**. The JDC shall have the following responsibilities:

(a) discuss, prepare and submit to the JSC for approval of the Development Plan and Development Budget and all annual and interim amendments to the Development Plan and Development Budget. For clarity, (i) Metagenomi will be responsible for preparing any regional Development Plans and regional Development Budget in the U.S. and (ii) Moderna will be responsible for preparing any regional Development Plans and regional Development Budget in all countries in the Territory other than the U.S. Such regional Development Plans are to be part of the Development Plan and Development Budget and thereby subject to comments and proposed changes by the other Party and approval by the JSC as part of the global Development Plan;

(b) oversee the conduct of the Development Plan;

(c) create, implement and review the overall strategy for Development and the design of all Clinical Trials, and Nonclinical Studies conducted under the Development Plan;

(d) oversee the conduct of a Working Group created by the JSC related to regulatory activities in the Territory ("**Regulatory Working Group**") in accordance with Section 6.5 (Regulatory Affairs), which shall consist of equal representatives from each Party;

(e) oversee the conduct of a Working Group created by the JSC related to Medical Affairs activities in the Territory ("**Medical Affairs Working Group**") in accordance with Section 6.6 (Medical Affairs), which shall consist of equal representatives from each Party;.

(f) decide whether and when to initiate or discontinue any Clinical Trial and any Nonclinical Study under the Development Plan, and initiate or discontinue any Clinical Trial and any Nonclinical Study; provided, that nothing is intended to limit a Party's ability to comply with Applicable Laws or manage subject safety;

(g) allocate budgeted resources and determine priorities for each Clinical Trial and Nonclinical Study under the Development Plan, and oversee the conduct of all Clinical Trials and Nonclinical Studies under the Development Plan;

(h) discuss and coordinate roles and responsibilities between the Parties for Development activities in the Territory;

(i) facilitate the flow of information between the Parties with respect to the Development of a DT Co-Co Product, including any Manufacturing updates related to clinical supply;

(j) review the overall strategy regarding Regulatory Approval of a DT Co-Co Product in the Territory;

(k) discuss, review and oversee the conduct of any Clinical Trials in the Territory that may be included in a Development Plan;

(l) review and approve terms (other than those set forth in Sections 3.6 (Subcontractors for the RT Plans) and 4.7 (Subcontractors for the DT Plans)) between a Party and a Third Party subcontractor with respect to any Development work to be conducted by such subcontractor; and

(m) perform such other functions as directed by the JSC in accordance with Section 2.4.12 (Specific Responsibilities of the JSC).

2.8 **Joint Commercialization Committee**.

2.8.1 **Formation**. No later than twelve (12) months prior to the anticipated first NDA or BLA filing, as applicable, for the first DT Co-Co Product in the Territory, the Parties shall establish the JCC to oversee and manage the Commercialization with respect to such DT Co-Co Product.

2.8.2 **Composition**. Each Party shall initially appoint three (3) representatives to the JCC, with each representative having knowledge and expertise working with products similar to the DT Co-Co Products, and having sufficient seniority within the applicable Party to make decisions arising within the scope of the JCC's responsibilities. The JCC may change its size from time to time by mutual consent of its members; provided, that the JCC shall consist at all times of an equal number of representatives of each of Metagenomi and Moderna. Each Party may replace any of its JCC representatives with a qualified employee of such Party at any time upon written notice to the other Party. The JCC may invite non-members to participate in the discussions and meetings of the JCC; provided that such participants shall have no voting authority at the JCC and shall be bound by the confidentiality obligations no less stringent than those provided in this Agreement. The JCC shall have two (2) co-chairpersons, one from each Party. The role of the chairpersons shall be to convene and preside at meetings of the JCC and to ensure the preparation of minutes, but the chairpersons shall have no additional powers or rights beyond those held by the other JCC representatives.

2.8.3 **Specific Responsibilities of the JCC**. The JCC shall have the following responsibilities:

(a) discuss, prepare and submit to the JSC for approval of the Commercialization Plan (including Commercialization Budget) and all annual and interim amendments to such Commercialization Plan (including Commercialization Budget). For clarity, (i) Metagenomi will be responsible for preparing any regional Commercialization Plan and regional Commercialization Budget in the U.S. and (ii) Moderna will be responsible for any regional Commercialization Plan and regional Commercialization Budget in all countries in the Territory other than the U.S. Such regional Commercialization Plans are to be part of the Commercialization Plan and Commercialization Budget and thereby subject to comments and proposed changes by the other Party and approval by the JSC as part of the global Commercialization Plan;

(b) monitor and discuss Commercialization of DT Co-Co Products in the Territory, including Distribution Matters;

(c) discuss, review and approve changes to the Parties' Commercialization responsibilities, including re-allocating and potentially shifting (based on mutual agreement of both Parties and not subject to escalation) responsibilities between the Parties in relation to each Party's capabilities in a given aspect of Commercialization;

(d) establish policies and procedures and a joint promotional review Working Group, for review and approval of any promotional materials for any DT Co-Co Product in the Territory, including with respect to the resolution of any disagreement between the Parties at the joint promotional review working;

(e) discuss, review and approve the use of Product Marks in any packages and labels for a DT Co-Co Product;

(f) discuss, review and approve Pricing Matters in the Territory in accordance with the Commercialization Plan;

(g) review and approve terms (other than those set forth in Sections 3.6 (Subcontractors for the RT Plans) and 4.7 (Subcontractors for the DT Plans)) between a Party and a Third Party subcontractor with respect to any Commercialization work to be conducted by such subcontractor; and

(h) perform such other functions as directed by the JSC in accordance with Section 2.4.12 (Specific Responsibilities of the JSC).

2.9 **Joint Patent Committee**. The JSC shall establish the JPC, consisting of one (1) subject matter expert from each Party or such other number as the JSC may agree upon (with an equal number of experts from each of Moderna and Metagenomi), within five (5) days after the establishment of the JSC. The JPC shall be responsible for evaluating technology arising during the applicable Research Term under this Agreement, including (a) making initial determination of inventorship, (b) determining whether such technology is Metagenomi Program Technology or Moderna Program Technology (including whether certain technologies can be separately categorized and separately patentable and subject to separate assignment and license obligations hereunder), and (c) coordination of the Parties with respect to managing the preparation, filing, prosecution, maintenance, enforcement and defense of Joint IP (and determining whether any such Joint IP should be maintained as trade secret in lieu of patenting), including in accordance with the provisions set forth in Article 8 (Intellectual Property); provided that disputes at the JPC with respect to Patent strategy with respect to Article 8 (Intellectual Property) shall be resolved in accordance with Article 8 (Intellectual Property) and shall not be escalated to the JSC.

2.10 **Decisions**.

2.10.1 **Decision-making Generally**. The JSC, subcommittees, including the JRC, JDC, JCC and JPC, and Working Groups shall endeavor to make decisions by consensus, with the representatives of each Party having, collectively, one (1) vote on behalf of that Party (which vote shall, with respect to the JSC, be exercised by the respective JSC Co-Chairs). Unless expressly provided for herein, JSC decisions shall not be subject to a tie-breaking vote. Deadlocks in the case of subcommittees and Working Groups (except, for clarity, deadlocks at the JPC with respect to Patent strategy under Article 8 (Intellectual Property), which shall be resolved in accordance with Article 8 (Intellectual Property)) shall be referred to the JSC for final disposition. If the JSC cannot reach consensus or a dispute arises that cannot be resolved within the JSC, either Party may refer such dispute to the Executive Officers for discussion and attempted resolution in good faith. If consensus cannot be reached with respect to a decision within thirty (30) days after attempted resolution by the Executive Officers, then, subject to Section 2.10.2 (Decision-making for DT CoCo Plans): (a) Moderna has the deciding vote with respect to [***]; provided that Moderna shall not resolve any such matter under the foregoing clause (a) in a manner that would [***].

2.10.2 **Decision-making for DT Co-Co Plans**. All matters within the purview of the JSC with respect to the DT Co-Co Plans shall be decided by consensus, with no tie-breaking vote, and any failure to reach consensus shall be resolved in accordance with Section 13.4 (Baseball Arbitration) with the goal of advancing the DT Co-Co Program in an expedited fashion, provided that:

(a) Moderna shall have the deciding vote on [***]; and

(b) Metagenomi shall have the deciding vote on all matters related to the application of Metagenomi Licensed DT Co-Co Technology to Metagenomi's activities under the DT Co-Co Plans.

2.10.3 **Disputes for Achievement of Milestones**. If the JSC is unable to reach consensus on whether [***] Milestone or [***] Milestone has been achieved, and if Moderna exercises its decision-making right pursuant to [***] then at the request of Metagenomi such dispute shall be resolved in accordance with Section 13.4 (Baseball Arbitration) provided that Metagenomi shall only have the right to request arbitration one (1) time for achievement of each [***] Milestone.

2.11 **Authority**. The JSC, the JSC Co-Chairs and each subcommittee have only the powers assigned expressly to them in this Article 2 (Governance and Joint Steering Committee) and elsewhere in this Agreement, and does not have any power to amend, modify or waive compliance with this Agreement. Each Party retains the rights, powers and discretion granted to it under this Agreement and neither Party may delegate or vest such rights, powers or discretion in the JSC or subcommittee unless expressly provided for in this Agreement or the Parties expressly so agree in writing. The JSC shall not have the power to amend, waive or modify any term of this Agreement, and no decision of the JSC shall be in contravention of any terms and conditions of this Agreement. It is understood and agreed that issues to be formally decided by the JSC are limited to those specific issues that are expressly provided in this Agreement to be decided by the JSC.

2.12 **Discontinuation of JSC**. The JSC will continue, on a Program-by-Program basis, until the expiration or termination of the Research Term for such Program. Upon disbanding of the JSC with respect to a Program, any subcommittees and Working Groups with respect to such Program shall be promptly disbanded with immediate effect (unless the Parties otherwise mutually agree).

Article 3
RT RESEARCH ACTIVITIES AND OPTION

3.1 **Goals**. The objectives for the RT Research Term are for the Parties: (i) to discover and advance Gene Editing technology within the RT Field to meet the RT Technology Milestones (the "**RT Technology Research Program**"); and (ii) to discover and advance Licensed Product candidates within the RT Field (each, a "**RT Candidate**") Directed Against specific RT Targets identified in the RT Preclinical Research Plans in order to permit Moderna to evaluate whether to exercise the RT Option with respect to any such RT Target (with respect to each specific RT Target, an "**RT Preclinical Research Program**"; together with the RT Technology Research Program, the "**RT Programs**"). Notwithstanding anything to the contrary herein, the Parties may also perform Research under the RT Technology Research Program involving specific targets.

3.2 **RT Technology Research Plan**. During the RT Research Term, the Research activities in the RT Technology Research Program shall follow a research plan and budget detailing principal objectives and the activities to be undertaken by both Parties, which includes: (a) the responsibilities of the Parties, and (b) a timeline showing the key activities and timeframes in which such activities are expected to be completed (the "**RT Technology Research Plan**"). The initial RT Technology Research Plan appended in **Schedule L** (RT Technology Research Plan) shall be presented by the Parties to the JSC for approval within thirty (30) days after the Effective Date. Moderna shall have the right to modify or amend the RT Technology Research Plan, provided that any modifications or amendments to the RT Technology Research Plan shall be subject to review by the JRC and approval by the JSC. The RT Technology Research Plan shall provide for achieving the [***] milestone.

3.3 **RT Preclinical Research Plan**. At any time during the RT Research Term, Moderna may initiate one or more RT Preclinical Research Programs by written notice to Metagenomi. Upon receiving such a written notice, the Parties shall jointly propose a research and development plan and budget detailing principal objectives and the activities to be undertaken by both Parties in the RT Preclinical Research Program(s), which includes: (a) the responsibilities of the Parties, and (b) a timeline showing the key activities and timeframes in which such activities are expected to be completed (each, an "**RT Preclinical Research Plan**"; together with the RT Technology Research Plan, the "**RT Plans**"). The initial RT Preclinical Research Plan shall be reviewed by the JRC and approved by the JSC. Moderna shall have the right to modify or amend the RT Preclinical Research Plan, provided that any modifications or amendments to the RT Preclinical Research Plan shall be subject to review by the JRC and approval by the JSC. Moderna shall use Commercially Reasonable Efforts to identify potential programs in the RT Field and to establish RT Plans for such programs.

3.4 **Obligations During the RT Research Term**. Each Party shall use Commercially Reasonable Efforts to perform and complete (itself or through its Affiliates or by permitted subcontracting) its obligations under the RT Plans. Neither Party shall be required to perform any work which is not contemplated by any RT Plan, unless such additional work is reflected in a mutually agreed amendment to the applicable RT Plan. Without limiting the generality of the foregoing, on an RT Preclinical Research Program-by-RT Preclinical Research Program basis, each Party shall use Commercially Reasonable Efforts to perform and complete its activities under the applicable RT Preclinical Research Plan.

3.5 **RT Research Term Costs**. Metagenomi's Research Costs incurred under the RT Technology Research Plan and any RT Preclinical Research Plan shall, on an annual basis, first be credited against the Annual Research Funding Amounts. Upon fully consuming the Annual Research Funding Amount for any given year by Metagenomi's Research Costs (which, for the avoidance of doubt, include Research Costs incurred under the DT Plans), Moderna shall pay Metagenomi for Metagenomi's Research Costs incurred under the RT Plans which are not covered by the Annual Research Funding Amount (the "**RT Excess Costs**") so long as the aggregate Research Costs incurred by Metagenomi in the RT Programs do not exceed the aggregate budgets therefor set forth in the RT Plans (the "**RT Research Budgets**"), provided *that* Moderna's obligation to compensate Metagenomi for RT Excess Costs shall be subject to Metagenomi's obligation to provide reports describing all of Metagenomi's Research Costs incurred under the RT Technology Research Plan and any RT Preclinical Research Plan, including any RT Excess Costs. Within [***] after the end of each Calendar Quarter, Metagenomi shall send such a report to Moderna describing all of Metagenomi's Research Costs incurred under the RT Technology Research Plan and any RT Preclinical Research Plan, including any RT Excess Costs, for such Calendar Quarter. Moderna may reasonably request additional supporting documentation for Metagenomi's Research Costs described in such reports and Metagenomi shall provide such documentation (e.g. out-of-pocket cost breakdowns and general allocation of FTEs). No later than [***] after receipt of any such invoice from Metagenomi, Moderna shall make payment of undisputed amounts for the RT Excess Costs for such Calendar Quarter. Reimbursement of any RT Excess Costs in excess of the RT Research Budgets shall be subject to approval by the JSC. Metagenomi shall use the Annual Research Funding Amounts it receives from Moderna under this Agreement solely to carry out its activities in the RT Technology Research Program, the RT Preclinical Research Programs, the DT Target Evaluation Program, and the DT Moderna Research Programs in accordance with the applicable Program Plans therefor and the terms and conditions of this Agreement and for no other purposes.

3.6 **Subcontractors for the RT Plans**. Subject to the remainder of this Section 3.6 (Subcontractors for the RT Plans), each Party may engage subcontractors to perform its obligations under the applicable RT Plan. In all cases, such Party shall ensure that (a) it remains responsible for the work allocated to such subcontractors to the same extent it would if it had done such work itself, (b) the subcontractor undertakes in writing obligations of confidentiality and non-use regarding Confidential Information that are at least as protective as those undertaken by such Party with respect to Confidential Information pursuant to Article 11 (Confidentiality), and (c) the subcontractor undertakes in writing to assign or exclusively license back (with the right to sublicense through multiple tiers) all intellectual property with respect to all Results and all other intellectual property arising out of such subcontracted activities, in each case in the course of performing any such work under the applicable RT Plan to such Party such that such Party shall Control such intellectual property. Without limiting the generality of the foregoing, each Party may subcontract any of its obligations under the applicable RT Plan to a university or academic institution on reasonable and customary terms, provided that, (a) such Party shall use reasonable efforts to ensure that such subcontracting relationship is consistent with, and such university or academic institution abides by, the terms and obligations set forth in this Section 3.6 (Subcontractors for the RT Plans) (or such revisions to such terms or obligations as the Parties may mutually agree) and (b) neither the U.S. government nor any agency thereof has funded or will fund any part of such subcontracting relationship. The engagement of any subcontractor in compliance with this Section 3.6 (Subcontractors for the RT Plans) shall not relieve either Party of its obligations under the applicable RT Plan or this Agreement.

3.7 **Records and Reports**.

3.7.1 **Records**. Metagenomi and Moderna shall maintain, or cause to be maintained, during the RT Research Term and for a reasonable period of time thereafter that is consistent with industry standards, complete and accurate written (or electronic) records of its activities under each RT Plan in sufficient detail and in a good scientific manner appropriate for scientific, patent and regulatory purposes, which records shall reasonably reflect all work performed by or on behalf of such Party under the applicable RT Plan (the "**RT Records**"). Moderna may request a copy of any RT Records of Metagenomi.

3.7.2 **Reports**. Metagenomi and Moderna shall report on a Calendar Quarter basis to the other Party through the JRC its Results in conducting activities under the RT Plans (the "**RT Results**"). In addition, for each RT Program, each Party shall provide the JRC with, on a Calendar Quarter basis during the RT Research Term, all RT Results generated by or on behalf of such Party in performance of its activities under the applicable RT Plan.

3.7.3 **Ownership; Confidentiality**. Each Party shall own all rights, title and interest (including all intellectual property rights) in and to the RT Results and the RT Records generated by or for it in accordance with Section 8.1.2 (Ownership of Intellectual Property). The RT Results and RT Records constitute Confidential Information and shall in each case be subject to the rights and obligations of the Parties under this Agreement, including Article 11 (Confidentiality) and the licenses granted hereunder.

3.8 **RT Research Term Extension**. Notwithstanding anything to the contrary, Moderna may, in its sole discretion, extend the RT Research Term by one (1) year for up to three (3) separate times each upon (i) written notice to Metagenomi provided at least [***] prior to the expiration of the existing RT Research Term and (ii) payment of the applicable RT Research Term Extension Fee. If Moderna desires that Metagenomi conduct additional Research activities within the RT Field after the expiration of the RT Research Term and Metagenomi agrees to conduct such additional activities, the Parties shall negotiate in good faith the terms and conditions of Metagenomi's conduct of such additional activities.

3.9 **RT Option**. On an RT Preclinical Research Program-by-RT Preclinical Research Program basis, Metagenomi hereby grants to Moderna the right, but not the obligation, to exercise an exclusive option, exercisable at any time during the Term but [***] (the "**RT Option Period**"), to obtain the licenses set forth in Section 5.13 (License to Moderna Upon Exercise of the RT Option) with respect to such RT Preclinical Research Program (the "**RT Option**"). Moderna may exercise the RT Option up to ten (10) times, each with respect to an RT Target under an RT Preclinical Research Program at its own choosing in its sole discretion. No later than thirty (30) days after the beginning of the RT Option Period for each RT Preclinical Research Program, Metagenomi shall (a) provide to Moderna the Data Package for such RT Preclinical Research Program, and (b) afford reasonable access during normal business hours to Metagenomi's personnel by Moderna and its representatives as Moderna may reasonably request to assist Moderna in deciding whether to exercise the RT Option. Moderna may exercise the RT Option with respect to an RT Preclinical Research Program by delivering an RT Option exercise notice in respect of such RT Option to Metagenomi at any time during the Term prior to the expiration of the applicable RT Option Period for such RT Preclinical Research Program (the date of such delivery, the "**RT Option Exercise Date**"). The RT Option exercise notice shall include the RT Target that is the subject of such RT Option, to be designated as follows: (i) an election of a set of up to [***] genes that are reasonably known or hypothesized in the scientific arts (A) [***]. Within [***] after the RT Option Exercise Date, Moderna shall pay the RT Option Fee for such RT Preclinical Research Program to Metagenomi. For clarity, on an RT Preclinical Research Program-by-RT Preclinical Research Program basis, after Moderna exercises its RT Option with respect to such RT Preclinical Research Program, Moderna shall be solely responsible and have sole authority for all Development (including IND Filing), Manufacturing and Commercialization of all Licensed RT Products for such RT Preclinical Research Program, and Moderna shall use Commercially Reasonable Efforts to Develop and Commercialize one or more Licensed RT Products for each such RT Preclinical Research Program. For the avoidance of doubt, Moderna may exercise the RT Option with respect to such RT Preclinical Research Program during the RT Option Period, regardless of whether the applicable RT Preclinical Research Plan has been put in place and whether activities under the applicable RT Preclinical Research Plan have been completed or carried out at all. If Moderna does not exercise the RT Option during the RT Option Period, then Metagenomi shall have no further obligation to Moderna with respect to such RT Preclinical Research Program.

3.10 **Metagenomi BEC Programs**.

3.10.1 Starting [***] after the Effective Date and during the Initial RT Research Term, Metagenomi may from time to time propose to the JSC in writing an RT Target for use in the RT Field, if such RT Target is not already included in an ongoing RT Preclinical Research Program, for which Metagenomi wishes to initiate a research program to discover and advance candidates Directed Against such RT Target in the RT Field through BEC (each such research

program, a, "**Metagenomi BEC Program**" and such candidates, the "**BEC Candidates**") along with written justification of why such RT Target is amenable to a BEC approach in the RT Field, in sufficient detail for the JSC to assess the feasibility and prospect of applying BEC in the RT Field on such RT Target. If, within [***] days after the JSC's receipt of the written proposal and justification, Moderna (a) has not provided written notice to Metagenomi to initiate an RT Preclinical Research Program for such RT Target in the RT Field or (b) has provided Metagenomi with written notice that it does not have an intent to do so, Metagenomi may initiate such Metagenomi BEC Program at its own cost and expense, provided that Metagenomi may not initiate more than [***] Metagenomi BEC Programs during each Calendar Year during the Initial Research Term. Metagenomi will periodically (through the JSC) thereafter provide information about the status and activities of such Metagenomi BEC Program promptly upon (and in any event within [***] after) Moderna's reasonable request, in sufficient detail to allow Moderna to assess the status and to review the activities of such Metagenomi BEC Program.

3.10.2 Subject to the remainder of this Section 3.10.2 (Metagenomi BEC Programs), Metagenomi may engage subcontractors to perform its activities in the Metagenomi BEC Programs. In all cases, Metagenomi shall ensure that (a) it remains responsible for the work allocated to such subcontractors to the same extent it would if it had done such work itself, (b) the subcontractor undertakes in writing obligations of confidentiality and non-use regarding Confidential Information that are at least as protective as those undertaken by Metagenomi with respect to Confidential Information pursuant to Article 11 (Confidentiality), and (c) the subcontractor undertakes in writing to assign or exclusively license back (with the right to sublicense through multiple tiers) all intellectual property with respect to all data (including raw data that has not undergone any processing, either manually or through automated computer software, processed, distilled, analyzed or summarized data, and all representations of part or all of the data), results, findings, analyses and observations, and all other intellectual property arising out of such subcontracted activities, in each case in the course of performing any such work in the applicable Metagenomi BEC Programs such that Metagenomi shall Control such intellectual property. Except as expressly set forth in this Section 3.10, (Metagenomi BEC Programs) Metagenomi and its Affiliates shall not, itself or with or through any Third Party, nor authorize, (sub)license (including granting any option, covenant not to sue, or other like right thereto) or otherwise enable any Third Party to, directly or indirectly, design, identify, research, manufacture, develop, commercialize or otherwise exploit any candidate or product in connection with the application of BEC in the RT Field during the Initial RT Research Term.

3.10.3 Moderna may at any time during the Initial RT Research Program initiate an RT Preclinical Research Program for an RT Target which is also the subject of a Metagenomi BEC Program by written notice to Metagenomi, and within [***] days after receiving such written notice, (a) Metagenomi will cooperate with Moderna to transfer the activities of such Metagenomi BEC Program to such RT Preclinical Research Program, (b) the Parties shall jointly propose an RT Preclinical Research Plan for such RT Preclinical Research Program, taking into account the activities that have been conducted in such Metagenomi BEC Program, and (c) Moderna shall pay to Metagenomi an amount equal to Metagenomi's costs incurred to date in such Metagenomi BEC Program that is transferred to Moderna upon the earlier of (i) the Base Editing system generated under such Metagenomi BEC Program achieving during the Initial RT Research Term the Base Editing Correction Readiness milestone for the RT Target of such Metagenomi BEC Program or (ii) Moderna exercises the RT Option with respect to such RT Preclinical Research Program;

provided that such payment under this clause (c) by Moderna may also be made by crediting any unused amounts from the Annual Research Funding Amount and shall not exceed [***]. From and after the end of the thirty (30)-day period, the Parties' rights and obligations with respect to RT Preclinical Research Programs under this Agreement (including, without limitation, those under Sections 3.4 (Obligations During the RT Research Term) through 3.9 (RT Option) and the applicable licenses granted under Article 5 (Licenses; Exclusivity; Manufacture)) shall apply to such RT Preclinical Research Program.

3.10.4 During the Initial RT Research Term, Metagenomi will notify Moderna in writing no later than [***] days prior to the anticipated GLP Tox Commitment Date of any Metagenomi BEC Program of the upcoming GLP Tox Commitment Date, together with a full data package for the Metagenomi BEC Program, with sufficient data (e.g., results, data (including raw data and summaries thereof), conclusions and findings), consistent with industry standard, for purposes of demonstrating achievement of indicated success criteria for GLP Toxicology Study, for Moderna to review.

(a) If within [***] of receiving such notice and data package, Moderna has not provided written notice to Metagenomi of Moderna's intention to initiate an RT Preclinical Research Program for the RT Target that is also the subject of such Metagenomi BEC Program, (i) Metagenomi is free to pursue such Metagenomi BEC Program without any further obligation to Moderna under this Agreement and the applicable RT Target in such Metagenomi BEC Program with respect to BEC, and (ii) the RT Target in such Metagenomi BEC Program shall remain available to Moderna for purposes of initiating an RT Preclinical Research Program, provided, however, such RT Preclinical Research Program directed to such RT Target shall not include BEC.

(b) If within [***] of receiving such notice and data package, Moderna provides a written notice to Metagenomi of Moderna's intention to initiate an RT Preclinical Research Program for the RT Target that is also the subject of such Metagenomi BEC Program, (i) Metagenomi will cooperate with Moderna to transfer the activities of such Metagenomi BEC Program to the newly established RT Preclinical Research Program, (ii) the Parties shall jointly propose an RT Preclinical Research Plan for such RT Preclinical Research Program, taking into account the activities that have been conducted in such Metagenomi BEC Program, and (iii) Moderna shall pay to Metagenomi an amount equal to Metagenomi's costs incurred to date in such Metagenomi BEC Program that is transferred to Moderna upon the earlier of (A) the Base Editing system generated under such Metagenomi BEC Program during the Initial RT Research Term achieving the [***] milestone for the RT Target of such Metagenomi BEC Program or (B) Moderna exercises the RT Option with respect to such RT Preclinical Research Program; provided that such payment under this clause (iii) by Moderna may also be made by crediting any unused amounts from the Annual Research Funding Amount and shall not exceed [***]. From and after the end of the [***] period, the Parties' rights and obligations with respect to RT Preclinical Research Programs under this Agreement (including, without limitation, those under Sections 3.4 (Obligations During the RT Research Term) through 3.9 (RT Option) and the applicable licenses granted under Article 5 (Licenses; Exclusivity; Manufacture)) shall apply to such RT Preclinical Research Program.

3.10.5 For clarity, Moderna is not obligated to provide any funding to Metagenomi or its Affiliates in connection with the Metagenomi BEC Programs, and Metagenomi and its Affiliates shall not use any Annual Research Funding Amounts (or any portion thereof) or any other funding provided by Moderna under this Agreement in connection with the Metagenomi BEC Programs. Moderna and its Affiliates are not obligated to grant, and do not and shall not grant, Metagenomi or its Affiliates any license under any intellectual property, or otherwise provide to Metagenomi or its Affiliates any technology (including, without limitation, any mRNA-LNP Technology), in each case in connection with the Metagenomi BEC Programs.

3.10.6 For clarity, after the end of the Initial RT Research Term, Metagenomi is free to pursue BEC in the RT Field without any further obligation to Moderna with respect to BEC in the RT Field under this Agreement except in relation to any RT Options exercised before the expiration of the applicable RT Option Period.

Article 4
MODERNA DT RESEARCH ACTIVITIES AND OPTION

4.1 **Reserved DT Target Discontinuance**. Within [***] after the earlier of (i) [***] after achieving Base Editing Knockout Readiness or (ii) the [***] anniversary of the Effective Date, but in no event earlier than the [***] of the Effective Date (the "**DT Reduction Date**"), in the event the number of Reserved DT Targets remaining as of the DT Reduction Date is greater than [***], Moderna shall reduce the number of Reserved DT Targets remaining to [***] by selecting, at its own choosing, the appropriate number of targets from among the remaining [***] for exclusion from the [***]. Notwithstanding the foregoing, within [***], in the event the number of Reserved DT Targets remaining as of the [***] of the Effective Date is greater than [***] Moderna shall reduce the number of Reserved DT Targets remaining to [***] by selecting, at its own choosing, the appropriate number of targets from among the remaining Reserved DT [***] for exclusion from the Reserved DT Targets. Within [***] after the [***] of the Effective Date, in the event the number of Reserved DT Targets remaining as of the [***] of the Effective Date is greater than [***], Moderna shall reduce the number of Reserved DT Targets remaining to [***] by selecting, at its own choosing, the appropriate number of targets from among the remaining Reserved DT Targets for exclusion from the Reserved DT Targets. Any Reserved DT Target selected by Moderna for exclusion from the Reserved DT Targets pursuant to this Section 4.1 (Reserved DT Target Discontinuance) shall, from and after such selection, be referred to as a "**Discontinued Target**" and cease to be a Reserved DT Target. In the event such Reserved DT Target is the subject of an ongoing DT Moderna Research Program at the time Moderna selects it for exclusion, the DT Moderna Research Program is deemed to have been terminated by Moderna pursuant to Section 12.4 (Termination for Convenience by Moderna), and such Reserved DT Target shall cease to be a DT Moderna Target, in each case as of the date of such selection.

4.2 **Right of First Negotiation**.

4.2.1 If, (a) at any time prior to the earlier of (i) [***] after achieving Base Editing Knockout Readiness or (ii) the [***] of the Effective Date, Metagenomi or any of its Affiliates wishes to grant any Third Party any rights related to the target [***] within the DT Field in the Territory, (b) at any time prior to the earlier of (i) [***] after achieving Base Editing Knockout Readiness or (ii) the [***] of the Effective Date, Metagenomi or any of its Affiliates wishes to grant any Third Party any rights related to the target [***] within the DT Field in the Territory, or (c) at any time prior to the [***] of the Effective Date, Metagenomi or any of its Affiliates wishes

to grant any Third Party any rights related to [***] (each time period in (a), (b) or (c), a "**ROFN Period**"), Metagenomi shall provide Moderna with written notice thereof, which notice shall identify the rights Metagenomi or its applicable Affiliate wishes to grant, and the applicable countries or regions of the Territory to which the applicable grant of rights would apply, together with such information and data in Metagenomi's or its applicable Affiliate's Control that would be reasonably useful for Moderna to determine wither to exercise its right under this Section 4.2.1 (Right of First Negotiation) (the "**ROFN Notice**"). Moderna shall have a right of first negotiation on the terms and conditions set forth in this Section 4.2.1 (Right of First Negotiation). In the event Moderna wishes to exercise its right of first negotiation with respect to such target [***], as applicable, identified in the ROFN Notice, it shall do so in writing (the "**ROFN Exercise Notice**") no later than [***] after Moderna's receipt of the applicable ROFN Notice (the "**ROFN Exercise Period**"). Upon Metagenomi's receipt of the applicable ROFN Exercise Notice, Metagenomi and Moderna shall negotiate in good faith to attempt to reach agreement on the terms of a collaboration and license agreement for the target [***] as applicable, in the applicable countries or regions of the Territory similar to the terms related to DT Moderna Research Programs in this Agreement as if the target [***] as applicable, were a DT Moderna Target. If (A) the Parties do not enter into such collaboration and license agreement within [***] of Metagenomi's receipt of the applicable ROFN Exercise Notice (the "**ROFN Negotiation Period**"), (B) Moderna fails to respond during the applicable ROFN Exercise Period, or (C) Moderna notifies Metagenomi that it elects not to exercise such negotiation right, Metagenomi or its applicable Affiliate shall be free to seek to enter into an agreement granting rights to the target [***] as applicable, in the countries or regions in the Territory with the Third Party, each as identified in the applicable ROFN Notice; provided that in the event Metagenomi or its applicable Affiliate does not enter into such an agreement within [***] days from (x) in the case of clause (A), expiration of the applicable ROFN Negotiation Period, or (y) in the case of clauses (B) and (C), expiration of the applicable ROFN Exercise Period (or earlier delivery of notice by Moderna to Metagenomi that it elects not to exercise such negotiation right), Metagenomi shall thereafter be obligated to, prior to entering into any such agreement, resubmit the ROFN Notice and enter into good faith negotiations with Moderna regarding such rights as specified above in this Section 4.2.1 (Right of First Negotiation) at Moderna's request, so long as the applicable ROFN Period has not expired.

4.2.2 If, at any time within [***] after a Discontinued Target becomes a Discontinued Target (the "**Discontinued Target ROFN Period**"), Metagenomi or any of its Affiliates wishes to grant any Third Party any rights related to such Discontinued Target within the DT Field in the Territory, Metagenomi shall provide Moderna with written notice thereof, which notice shall identify the rights Metagenomi or its applicable Affiliate wishes to grant, and the applicable countries or regions of the Territory to which the applicable grant of rights would apply, together with such information and data in Metagenomi's or its applicable Affiliate's Control that would be reasonably useful for Moderna to determine wither to exercise its right under this Section 4.2.2 (Right of First Negotiation) (the "**Discontinued Target ROFN Notice**"). Moderna shall have a right of first negotiation on the terms and conditions set forth in this Section 4.2.2 (Right of First Negotiation). In the event Moderna wishes to exercise its right of first negotiation with respect to such Discontinued Target identified in the Discontinued Target ROFN Notice, it shall do so in writing (the "**Discontinued Target ROFN Exercise Notice**") no later than [***] after Moderna's receipt of the applicable Discontinued Target ROFN Notice (the "**Discontinued Target ROFN Exercise Period**"). Upon Metagenomi's receipt of the applicable Discontinued Target ROFN Exercise Notice, Metagenomi and Moderna shall negotiate in good

faith to attempt to reach agreement on the terms of a collaboration and license agreement for the Discontinued Target in the applicable countries or regions of the Territory similar to the terms related to DT Moderna Research Programs in this Agreement as if the Discontinued Target were a DT Moderna Target. If (A) the Parties do not enter into such collaboration and license agreement within [***] of Metagenomi's receipt of the applicable Discontinued Target ROFN Exercise Notice (the "**Discontinued Target ROFN Negotiation Period**"), (B) Moderna fails to respond during the applicable Discontinued Target ROFN Exercise Period, or (C) Moderna notifies Metagenomi that it elects not to exercise such negotiation right, Metagenomi or its applicable Affiliate shall be free to seek to enter into an agreement granting rights to the Discontinued Target in the countries or regions in the Territory with the Third Party, each as identified in the applicable Discontinued Target ROFN Notice; provided that in the event Metagenomi or its applicable Affiliate does not enter into such an agreement within [***] from (x) in the case of clause (A), expiration of the applicable Discontinued Target ROFN Negotiation Period, or (y) in the case of clauses (B) and (C), expiration of the applicable Discontinued Target ROFN Exercise Period (or earlier delivery of notice by Moderna to Metagenomi that it elects not to exercise such negotiation right), Metagenomi shall thereafter be obligated to, prior to entering into any such agreement, resubmit the Discontinued Target ROFN Notice and enter into good faith negotiations with Moderna regarding such rights as specified above in this Section 4.2.2 (Right of First Negotiation) at Moderna's request, so long as the applicable Discontinued Target ROFN Period has not expired.

4.3 **DT Target Evaluation Plan**. Within [***] after the Effective Date, the Parties shall promptly establish a research program to advance Base Editing technology towards achieving the Base Editing Knockout Readiness and to evaluate the Reserved DT Targets (the "**DT Target Evaluation Program**"). The Research activities in the DT Target Evaluation Program shall follow a research plan and budget detailing principal objectives and the activities to be undertaken by both Parties, which includes: (a) the responsibilities of the Parties, and (b) a timeline showing the key activities and timeframes in which such activities are expected to be completed (the "**DT Target Evaluation Plan**"). Moderna shall have the right to modify or amend the DT Target Evaluation Plan, provided that any modifications or amendments to the DT Target Evaluation Plan shall be subject to review by the JRC and approval by the JSC.

4.4 **DT Moderna Research Plan**. Upon written request by Moderna at any time during the DT Moderna Research Term, the Parties shall promptly establish a research program to discover and advance Licensed Product candidates within the DT Field (each, a "**DT Moderna Candidate**") Directed Against a Reserved DT Target selected by Moderna in its sole discretion in such written request (each Reserved DT Target so selected by Moderna, a "**DT Moderna Target**") in order to advance such DT Moderna Candidates to IND Filing (the "**DT Moderna Research Program**"; together with the DT Target Evaluation Program, the "**DT Programs**"). Notwithstanding the foregoing, upon the earlier of completion of the DT Target Evaluation Program or [***] after the Effective Date, the Parties shall establish DT Moderna Research Programs for each then-current Reserved DT Target. To facilitate the foregoing, the Parties shall jointly propose a research and development plan and budget detailing principal objectives and the activities to be undertaken by both Parties in such DT Moderna Research Program, which includes: (a) the responsibilities of the Parties, (b) a timeline showing the key activities and timeframes in which such activities are expected to be completed, and (c) the criteria for a [***] (the "**DT Moderna Research Plan**"; together with the DT Target Evaluation Plan, the "**DT Plans**"). The initial DT Moderna Research Plan shall be reviewed by the JRC and approved by the JSC. Moderna shall have the right to modify or amend the DT Moderna Research Plan, provided that any modifications or amendments to the DT Moderna Research Plan shall be subject to review by the JRC and approval by the JSC.

4.5 **Obligations During the DT Moderna Research Term**. Each Party shall use Commercially Reasonable Efforts to perform and complete (itself or through its Affiliates or by permitted subcontracting) its obligations under the DT Plans. Neither Party shall be required to perform any work which is not contemplated by any DT Plan, unless such additional work is reflected in a mutually agreed amendment to the applicable DT Plan. Without limiting the generality of the foregoing, on a DT Moderna Research Program-by-DT Moderna Research Program basis, each Party shall use Commercially Reasonable Efforts to perform and complete its activities under the DT Plans.

4.6 **DT Moderna Research Term Costs**. Metagenomi's Research Costs incurred under the DT Target Evaluation Plan and any DT Moderna Research Plan shall, on an annual basis, first be credited against the Annual Research Funding Amounts. Upon fully consuming the Annual Research Funding Amount for any given year by Metagenomi's Research Costs (which, for the avoidance of doubt, include Research Costs incurred under the RT Plans), Moderna shall pay Metagenomi for Metagenomi's Research Costs incurred under the DT Plans which are not covered by the Annual Research Funding Amount (the "**DT Moderna Excess Costs**") so long as the aggregate Research Costs incurred by Metagenomi in the DT Programs do not exceed the aggregate budgets therefor set forth in the DT Plans (the "**DT Moderna Research Budgets**"), provided *that* Moderna's obligation to compensate Metagenomi for DT Moderna Excess Costs shall be subject to Metagenomi's obligation to provide reports describing all of Metagenomi's Research Costs incurred under the DT Target Evaluation Plan and any DT Moderna Research Plan, including any DT Moderna Excess Costs. Within [***] after the end of each Calendar Quarter, Metagenomi shall send such a report to Moderna describing all of Metagenomi's Research Costs incurred under the DT Target Evaluation Plan and any DT Moderna Research Plan, including any DT Moderna Excess Costs, for such Calendar Quarter. Moderna may reasonably request additional supporting documentation for Metagenomi's Research Costs described in such reports and Metagenomi shall provide such documentation (e.g. out-of-pocket cost breakdowns and general allocation of FTEs). No later than [***] after receipt of any such invoice from Metagenomi, Moderna shall make payment of undisputed amounts for the DT Moderna Excess Costs for such Calendar Quarter. Reimbursement of any DT Moderna Excess Costs in excess of the DT Moderna Research Budgets shall be subject to approval by the JSC.

4.7 **Subcontractors for the DT Plans**. Subject to the remainder of this Section 4.7 (Subcontractors for the DT Plans), each Party may engage subcontractors to perform its obligations under the applicable DT Plan. In all cases, such Party shall ensure that (a) it remains responsible for the work allocated to such subcontractors to the same extent it would if it had done such work itself, (b) the subcontractor undertakes in writing obligations of confidentiality and non-use regarding Confidential Information that are at least as protective as those undertaken by such Party with respect to Confidential Information pursuant to Article 11 (Confidentiality), and (c) the subcontractor undertakes in writing to assign or exclusively license back (with the right to sublicense through multiple tiers) all intellectual property with respect to all Results and all other intellectual property arising out of such subcontracted activities, in each case in the course of performing any such work under the applicable DT Plan to such Party such that such Party shall

Control such intellectual property. Without limiting the generality of the foregoing, each Party may subcontract any of its obligations under the applicable DT Plan to a university or academic institution on reasonable and customary terms, provided *that*, (a) such Party shall use reasonable efforts to ensure that such subcontracting relationship is consistent with, and such university or academic institution abides by, the terms and obligations set forth in this Section 4.7 (Subcontractors for the DT Plans) (or such revisions to such terms or obligations as the Parties may mutually agree) and (b) neither the U.S. government nor any agency thereof has funded or will fund any part of such subcontracting relationship. The engagement of any subcontractor in compliance with this Section 4.7 (Subcontractors for the DT Plans) shall not relieve either Party of its obligations under the applicable DT Plan or this Agreement.

4.8 **Records and Reports**.

4.8.1 **Records**. Metagenomi and Moderna shall maintain, or cause to be maintained, during the DT Moderna Research Term and for a reasonable period of time thereafter that is consistent with industry standards, complete and accurate written (or electronic) records of its activities under each DT Plan in sufficient detail and in a good scientific manner appropriate for scientific, patent and regulatory purposes, which records shall reasonably reflect all work performed by or on behalf of such Party under the applicable DT Plan (the "**DT Moderna Records**"). Moderna may request a copy of any DT Moderna Records of Metagenomi.

4.8.2 **Reports**. Metagenomi and Moderna shall report on a Calendar Quarter basis to the other Party through the JRC its Results in conducting activities under the DT Plans (the "**DT Moderna Results**"). In addition, for each DT Program, each Party shall provide the JRC with, on a Calendar Quarter basis during the DT Moderna Research Term, all DT Moderna Results generated by or on behalf of such Party in performance of its activities under the applicable DT Plan.

4.8.3 **Ownership; Confidentiality**. Each Party shall own all rights, title and interest (including all intellectual property rights) in and to the DT Moderna Results and the DT Moderna Records generated by or for it in accordance with Section 8.1.2 (Ownership of Intellectual Property). The DT Moderna Results and DT Moderna Records constitute Confidential Information and shall in each case be subject to the rights and obligations of the Parties under this Agreement, including Article 11 (Confidentiality) and the licenses granted hereunder.

4.9 **DT Option**. On a DT Moderna Research Program-by-DT Moderna Research Program basis, in the event this Agreement has not expired or been terminated with respect to such DT Moderna Research Program, Metagenomi hereby grants to Moderna the right, but not the obligation, to exercise an exclusive option, exercisable at any time during the Term but no later than [***] (the "**DT Option Period**") to obtain the licenses set forth in Section 5.15 (License to Moderna Upon Exercise of the DT Option) with respect to such DT Moderna Research Program (the "**DT Option**"). Moderna may exercise the DT Option up to two (2) times for a total of two (2) DT Moderna Targets under this Agreement, each with respect to a DT Moderna Research Program at its own choosing in its sole discretion. No later than [***] after the beginning of the DT Option Period for each DT Moderna Research Program, Metagenomi shall (a) provide to Moderna the Data Package for such DT Moderna Research Program, and (b) afford reasonable access during normal business hours to Metagenomi's personnel by Moderna and its

representatives as Moderna may reasonably request to assist Moderna in deciding whether to exercise the DT Option. Moderna may exercise the DT Option with respect to a DT Moderna Research Program by delivering a DT Option exercise notice in respect of such DT Option to Metagenomi at any time during the Term prior to the expiration of the DT Option Period for such DT Moderna Research Program (the date of such delivery, the "**DT Option Exercise Date**"). Within [***] after the DT Option Exercise Date, Moderna shall pay the DT Option Fee for such DT Moderna Research Program to Metagenomi. For clarity, on a DT Moderna Research Program-by-DT Moderna Research Program basis, after Moderna exercises its DT Option with respect to such DT Moderna Research Program, Moderna shall be solely responsible and have sole authority for all Development (including IND Filing), Manufacturing and Commercialization of all Licensed DT Products for such DT Moderna Research Program, and Moderna shall use Commercially Reasonable Efforts to Develop and Commercialize one or more Licensed DT Products for each such DT Moderna Research Program. For the avoidance of doubt, Moderna may exercise the DT Option with respect to such DT Moderna Research Program during the DT Option Period, regardless of whether the applicable DT Moderna Research Plan has been put in place and whether the activities under the applicable DT Moderna Research Plan have been completed or carried out at all. If Moderna does not exercise the DT Option during the DT Option Period, then Metagenomi shall have no further obligation to Moderna with respect to such DT Moderna Research Program. Notwithstanding anything herein to the contrary, if Moderna exercises an RT Option and a DT Option with respect to the same target, then the DT Option Fee or the RT Option Fee, as applicable, for the later exercise shall be reduced by [***] and the two applicable Programs will be treated as one for purposes of Moderna's Commercially Reasonable Efforts obligations.

Article 5
LICENSES; EXCLUSIVITY; MANUFACTURE

5.1 **RT Research Term License**. On an RT Program-by-RT Program basis, each Party agrees to grant, and hereby grants, the other Party, during the RT Research Term, a nonexclusive license under such Party's Background Technology and RT Program Technology (including RT Results and RT Records generated by or for such Party in conducting activities under all RT Plans) (collectively, such Party's "**RT Research Licensed Technology**"), to carry out the other Party's activities under the RT Plan in such RT Program.

5.2 **RT Preclinical Research Technology Transfer**. On an RT Program-by-RT Program basis:

5.2.1 from time to time during the Term for such RT Program, each Party shall provide to the other Party such Party's RT Research Licensed Technology to be used based on the applicable RT Plan or as utilized under such RT Program in such Party's possession or Control but was not previously provided in form and by means to be mutually agreed by the Parties; and

5.2.2 during the Term for such RT Program, such Party shall reasonably cooperate with the other Party to facilitate the technology transfer of such Party's RT Research Licensed Technology to be used based on the applicable RT Plan or as utilized under such RT Program to the other Party. Such cooperation shall include providing the other Party with reasonable access by teleconference or in-person at such Party's facilities to appropriate personnel from such Party to provide the other Party with technical assistance and consultation in connection with the transfer of such Party's RT Research Licensed Technology for such RT Program.

Notwithstanding the foregoing provisions of this Section 5.2 (RT Preclinical Research Technology Transfer) or anything else herein to the contrary, Moderna's obligation to transfer its RT Research Licensed Technology to Metagenomi under this Section 5.2 (RT Preclinical Research Technology Transfer) shall be limited to the RT Research Licensed Technology that Moderna determines at its sole discretion is necessary or reasonably useful for Metagenomi to carry out its activities under the applicable RT Plan.

5.3 **DT Moderna Research Term License**. On a DT Program-by-DT Program basis, each Party agrees to grant, and hereby grants, the other Party, during the DT Moderna Research Term, a non-exclusive license under such Party's Background Technology and DT Program Technology (including DT Moderna Results and DT Moderna Records generated by or for such Party in conducting activities under all DT Plans) (collectively, such Party's "**DT Moderna Research Licensed Technology**"), to carry out the other Party's activities under the DT Plan in such DT Program.

5.4 **DT Moderna Research Term Technology Transfer**. On a DT Program-by-DT Program basis:

5.4.1 as soon as reasonably practicable but in any event no less than [***] after the initiation of such DT Program, each Party shall provide to the other Party with such Party's DT Moderna Research Licensed Technology to be used based on the applicable DT Plan or as utilized under such DT Program in such Party's possession or Control as of the Effective Date in form and by means to be mutually agreed by the Parties;

5.4.2 from time to time during the Term for such DT Program, such Party shall provide to the other Party such Party's DT Moderna Research Licensed Technology to be used based on the applicable DT Plan or as utilized under such DT Program in such Party's possession or Control but was not previously provided in form and by means to be mutually agreed by the Parties; and

5.4.3 during the Term for such DT Program, such Party shall reasonably cooperate with the other Party to facilitate the technology transfer of such Party's DT Moderna Research Licensed Technology for such DT Program to the other Party. Such cooperation shall include providing the other Party with reasonable access by teleconference or in-person at such Party's facilities to appropriate personnel from such Party to provide the other Party with technical assistance and consultation in connection with the transfer of such Party's DT Moderna Research Licensed Technology for such DT Program.

Notwithstanding the foregoing provisions of this Section 5.4 (DT Moderna Research Term Technology Transfer) or anything else herein to the contrary, Moderna's obligation to transfer its DT Moderna Research Licensed Technology to Metagenomi under this Section 5.4 (DT Moderna Research Term Technology Transfer) shall be limited to the DT Moderna Research Licensed Technology that Moderna determines in its sole discretion is necessary or reasonably useful for Metagenomi to carry out its activities under the applicable DT Plan.

5.5 **DT Co-Co Program License**. Metagenomi agrees to grant, and hereby grants, to Moderna, during the Term, a co-exclusive license (with Metagenomi and its Affiliates) under the Metagenomi Licensed DT Co-Co Technology, to Exploit all applications of the DT Co-Co Target in the DT Co-Co Program, including all DT Co-Co Candidates in such DT Co-Co Program, for any use in the DT Field in the Territory during the Term, provided that (i) Moderna shall only exercise such license to carry out its activities under the DT Co-Co Plans for such DT Co-Co Program; and (ii) Metagenomi shall only practice its rights under the co-exclusively licensed Metagenomi Licensed DT Co-Co Technology to carry out its activities under the DT Co-Co Plans for such DT Co-Co Program. Moderna agrees to grant, and hereby grants, to Metagenomi, during the Term, a license under the Moderna Licensed DT Co-Co Technology, to carry out Metagenomi's activities under the DT Co-Co Plans for the DT Co-Co Program. Such license shall be non-exclusive prior to DC Nomination and co-exclusive (with Moderna and its Affiliates) after DC Nomination with respect to the DT Co-Co Product nominated in such DC Nomination, and shall not include the right to Manufacture or have Manufactured the DT Co-Co Product other than the rights of Moderna set forth in Section 5.23 (Manufacture).

5.6 **DT Co-Co Research Technology Transfer**. With respect to the DT Co-Co Program:

5.6.1 as soon as reasonably practicable but in any event no less than thirty (30) days after the Effective Date, each Party shall provide to the other Party with such Party's Licensed DT Co-Co Technology for such DT Co-Co Program in such Party's possession or Control as of the Effective Date in form and by means to be mutually agreed by the Parties;

5.6.2 from time to time during the Term, such Party shall provide to the other Party such Party's Licensed DT Co-Co Technology for such DT Co-Co Program in such Party's possession or Control but was not previously provided in form and by means to be mutually agreed by the Parties; and

5.6.3 during the Term, such Party shall reasonably cooperate with the other Party to facilitate the technology transfer of such Party's Licensed DT Co-Co Technology for such DT Co-Co Program to the other Party. Such cooperation shall include providing the other Party with reasonable access by teleconference or in-person at such Party's facilities to appropriate personnel from such Party to provide the other Party with technical assistance and consultation in connection with the transfer of such Party's Licensed DT Co-Co Technology for such DT Co-Co Program.

Notwithstanding the foregoing provisions of this Section 5.6 (DT Co-Co Research Technology Transfer) or anything else herein to the contrary, (a) Moderna's obligation to transfer its Licensed DT Co-Co Technology to Metagenomi under this Section 5.6 (DT Co-Co Research Technology Transfer) shall be limited to its Licensed DT Co-Co Technology that Moderna determines in its sole discretion is necessary or reasonably useful for Metagenomi to carry out its activities under the applicable DT Co-Co Plans, and (b) Metagenomi's obligation to transfer its Licensed DT Co-Co Technology to Moderna under this Section 5.6 (DT Co-Co Research Technology Transfer) shall be limited to its Licensed DT Co-Co Technology that Metagenomi determines in its sole discretion is necessary or reasonably useful for Moderna to carry out its activities under the applicable DT Co-Co Plans, provided, however, notwithstanding anything herein to the contrary, (i) in the event of an Opt-Out by Metagenomi pursuant to Section 6.8 (Opt-Out Right), the

foregoing clause (b) shall no longer apply with respect to the DT Co-Co Program from which Metagenomi has exercised the Opt-Out Right, and Metagenomi shall transfer or otherwise provide all of its Licensed DT Co-Co Technology to Moderna in accordance with Sections 5.6.2 (DT Co-Co Research Technology Transfer), 5.6.3 (DT Co-Co Research Technology Transfer), and 5.17 (Metagenomi Licensed Collaboration Technology Update); and (ii) in the event of an Opt-Out by Moderna pursuant to Section 6.8.1 (Opt-Out Right) prior to DC Nomination in such DT Co-Co Program, the foregoing clause (a) shall continue to apply but the scope of the Moderna Licensed DT Co-Co Technology under this Section 5.6 (DT Co-Co Research Technology Transfer) shall be expanded to additionally include Moderna's DT Moderna Research Licensed Technology being Exploited by Moderna as of the expiration of the Initial DT Co-Co Research Term. Notwithstanding the foregoing provisions of this Section 5.6.3 (DT Co-Co Research Technology Transfer) or anything else herein to the contrary, Metagenomi acknowledges, understands and agrees that no CMC or Manufacturing-related Know-How shall be provided by Moderna to Metagenomi under this Agreement, including this Section 5.6.3 (DT Co-Co Research Technology Transfer).

5.7 **Sublicensing**.

5.7.1 **Rights to Grant Licenses and Sublicenses in the Territory**. Except as permitted under this Section 5.7 (Sublicensing), without the prior approval of the other Party, neither Party shall grant a sublicense of the rights granted to such Party under Section 5.5 (DT Co-Co Program License), to Develop, Manufacture, perform Medical Affairs with respect to, or Commercialize the DT Co-Co Products in the Territory. If either Party wishes to grant a license or sublicense (as applicable) to a Third Party to Develop, Manufacture, perform Medical Affairs with respect to, or Commercialize any DT Co-Co Product in the Territory (except as permitted under this Section 5.7 (Sublicensing)), then such Party shall notify the other Party through the JSC, and the other Party shall review such proposal and determine whether to approve the extension of rights to such licensee or sublicensee. Following any such approval by the applicable JSC subcommittee of a proposed licensee or sublicensee in the Territory, unless otherwise agreed by the applicable JSC subcommittee, such Party shall have the right to lead discussions with potential licensees or sublicensees, negotiate terms, and execute the agreement with such licensee or sublicensee, provided that such Party shall provide the final form of any such agreement to the applicable JSC subcommittee for the applicable JSC subcommittee's approval prior to execution thereof. In addition, the Parties shall coordinate through the applicable JSC subcommittee with respect to the performance or any such licensees or sublicensees, as applicable, to ensure the efficient Development, Manufacture, performance of Medical Affairs with respect to, and Commercialization of the DT Co-Co Products throughout the Territory. Notwithstanding the foregoing, if a Party has exercised its Opt-Out Right pursuant to Section 6.8 (Opt-Out Right), then the foregoing restrictions on sublicensing shall not apply and, subject to Section 6.8.3 (Right of First Offer After Opt-Out), the Primary Party shall have the right to sublicense the rights granted under Section 5.5 (DT Co-Co Program License) without the prior approval of the Opt-Out Party, provided, however, notwithstanding anything herein to the contrary, in the event Moderna exercises its Opt-Out Right pursuant to Section 6.8 (Opt-Out Right), Moderna shall retain its right to Manufacture under Section 5.23 (Manufacture). Notwithstanding anything herein to the contrary, Metagenomi shall not grant a sublicense of the rights granted to it under Section 5.5 (DT Co-Co Program License) to Manufacture any DT Co-Co Products in the Territory.

5.7.2 **Costs and Income from Sublicensing Activities in the Territory**. The External Costs incurred in connection with the negotiation of an agreement with any such Third Party licensee or sublicensee (including legal costs and attorneys' fees) in the Territory as approved by the JSC shall be shared equally by the Parties as Other Operating Expenses in accordance with Section 7.4 (Co-Co Products Profit and Loss Share). Any Licensing Income received from such Third Party licensee or sublicensee with respect to the Development, Manufacture, Commercialization or Medical Affairs activities performed by such Third Party licensee or sublicensee in the Territory shall be shared by the Parties as part of the Operating Profits or Losses.

5.7.3 **Sublicense Agreements**. Each sublicense to a Third Party granted by a Party pursuant to this Section 5.7 (Sublicensing) shall (a) be subject and subordinate to this Agreement, (b) be consistent with the terms of this Agreement, (c) include obligations of confidentiality and non-use applicable to the Confidential Information of the other Party that are at least as stringent as those set forth in Article 11 (Confidentiality), and (d) include terms that are consistent with and no less restrictive with respect to the intellectual property provisions set forth in this Agreement, unless, in each case, the Parties agree otherwise.

5.8 **Responsibility for Sublicensees**. Notwithstanding any sublicense, the Party that grants rights to such licensee or sublicensee (as applicable) shall remain primarily liable to the other Party for the performance of all of its obligations under, and such Party's compliance with all provisions of, this Agreement. Each Party agrees that it shall be fully responsible and liable for any breach of the terms of this Agreement by any of its licensees or sublicensees (as applicable) to the same extent as if such Party itself has committed any such breach.

5.9 **Subcontracting for DT Co-Co Plans**.

5.9.1 **Subcontracting Rights**. Either Party may engage a Third Party to perform services on a fee for service basis in connection with the performance of its obligations or exercise of its rights under the DT Co-Co Plans in the Territory; provided that (a) any subcontractor engaged to perform Development activities with respect to a DT Co-Co Product must be set forth in the Development Plan for such DT Co-Co Product, (b) any subcontractor engaged to perform Medical Affairs with respect to a DT Co-Co Product in or for the Territory must be set forth in the Medical Affairs Plan for such DT Co-Co Product, and (c) any subcontractor engaged to perform Commercialization activities with respect to a DT Co-Co Product in or for the Territory must be set forth in the Commercialization Plan for such DT Co-Co Product.

5.9.2 **Subcontracting Requirements**. No subcontracting by either Party in accordance with Section 5.9.1 (Subcontracting Rights) shall relieve the subcontracting Party of its obligations under this Agreement or any liability hereunder. Each agreement with any Third Party subcontractor engaged in accordance with Section 5.9.1 (Subcontracting Rights) must (a) be consistent with the terms of this Agreement, (b) include obligations of confidentiality and non-use applicable to the Confidential Information of the other Party that are at least as stringent as those set forth in Article 11 (Confidentiality), and (c) include terms that are consistent with the intellectual property provisions set forth in this Agreement. As soon as reasonably practicable thereafter each Party shall provide the other Party with a copy of any executed agreement with a Third Party subcontractor that shall perform Development, Manufacturing, Commercialization, or Medical Affairs activities under this Agreement in the Territory (which copy may be redacted to

remove provisions that are not necessary to monitor compliance with this Section 5.9 (Subcontracting for DT Co-Co Plans)). **Schedule E** (Approved Subcontractors) sets forth a list of pre-approved subcontractors that may be engaged by either Party to perform activities hereunder in the Territory. Each Party shall remain directly responsible for any uncured material breach of this Agreement by a subcontractor and shall terminate promptly any such subcontractor with notice to the other Party of such termination.

5.10 **Third Party In-Licenses in the DT Co-Co Program**.

5.10.1 **Existing Co-Co In-Licenses**. The Parties agree that the agreements listed on **Schedule F** (Existing Co-Co In-Licenses) are existing in-licenses entered into by each Party that relate or pertain to the DT Co-Co Program. Each stipulates and agrees that the rights and licenses granted to it under this Agreement are subject to the applicable terms of all such existing in-licenses of the other Party as such terms exist on the Effective Date with respect to the other Party's Licensed DT Co-Co Technology that is being sublicensed thereunder, and such Party hereby agrees to comply with those terms. The Party that is a party to such an existing in-license has provided to the other Party a true and correct copy of such in-license prior to the Effective Date. Each Party further stipulates and agrees that the other Party's ability to comply with its obligations, and grant rights and licenses to such Party, under this Agreement may be limited by requirements and restrictions imposed on the other Party under such existing in-licenses, and notwithstanding any provision to the contrary set forth in this Agreement, the other Party shall not be required to take any action that would cause it to be in breach of any such existing in-license.

5.10.2 **Future DT Co-Co In-Licenses**. Except as otherwise expressly provided herein, each Party shall have the right, in its sole discretion, to independently negotiate, obtain and maintain rights to use any and all Patents or Know-How held by a Third Party (whether through acquisition or license) that relates or otherwise pertains to the DT Co-Co Program. Subject to the provisions of this Agreement, each Party shall be responsible for all obligations under the agreements with the relevant Third Parties to acquire such rights. Such agreements shall be referred to as "**Co-Co Moderna In-License Agreements**" in the event such Party is Moderna (or any of its Affiliates) and "**Co-Co Metagenomi In-License Agreements**" in the event such Party is Metagenomi (or any of its Affiliates).

5.10.3 **Co-Co Moderna In-License Agreements**.

(a) **Co-Co Moderna In-License Agreements**. Notwithstanding any provision in this Agreement to the contrary, during the Term for the DT Co-Co Program, Moderna shall have the right to determine, in its sole discretion, whether any Patents or Know-How under any Co-Co Moderna In-License Agreement can and should be sublicensed to Metagenomi for such DT Co-Co Program. If Moderna determines that any such Patents or Know-How can and should be sublicensed to Metagenomi for such DT Co-Co Program, then Moderna shall disclose to Metagenomi the terms of such Co-Co Moderna In-License Agreement (including by providing a copy of such Co-Co Moderna In-License Agreement to Metagenomi), subject to applicable confidentiality obligations and reasonable redaction of provisions that do not relate to the potential use of such Patents and Know-How for the performance by Metagenomi of its existing or future activities in the DT Co-Co Program. After Metagenomi has had an opportunity to review the terms of such Co-Co Moderna In-License Agreement and has agreed in writing to be subject to such

terms, (i) such Patents and Know-How shall be deemed "Controlled" by Moderna or its Affiliates for purposes of this Agreement and shall be included in the Moderna Licensed DT Co-Co Technology, (ii) the Parties shall allocate any royalty or other payment obligations to the applicable Third Party in connection with such Patents or Know-How in accordance with Section 5.10.3(b) (Payments under Co-Co Moderna In-License Agreements), and (iii) Metagenomi stipulates and agrees that the rights and licenses granted to it under this Agreement are subject to the applicable terms of such Co-Co Moderna In-License Agreement, and Metagenomi hereby agrees to comply with those terms. Metagenomi further stipulates and agrees that Moderna's ability to comply with its obligations, and grant rights and licenses to Metagenomi, under this Agreement may be limited by requirements and restrictions imposed on Moderna under such Co-Co Moderna In-License Agreement, and notwithstanding any provision to the contrary set forth in this Agreement, Moderna shall not be required to take any action that would cause it to be in breach of any such Co-Co Moderna In-License Agreement. If Moderna does not notify Metagenomi of a Co-Co Moderna In-License Agreement, then no Patents or Know-How under such Co-Co Moderna In-License Agreement shall be deemed "Controlled" by Moderna or its Affiliates for purposes of this Agreement, and they shall be excluded from the Moderna Licensed DT Co-Co Technology.

(b) **Payments under Co-Co Moderna In-License Agreements**. In the event the subject matter of a Co-Co Moderna In-License Agreement is broader than the Patents and Know-How thereunder that is included in the Moderna Licensed DT Co-Co Technology pursuant to Section 5.10.3(a) (Co-Co Moderna In-License Agreements), the Parties shall negotiate in good faith and reasonably allocate to Metagenomi the obligation to pay that portion of Moderna's Third Party Payment under such Co-Co Moderna In-License Agreement that is attributable to Metagenomi's exercise of its licenses or rights to such Patents or Know-How, subject to Section 5.10.5 (Metagenomi Payments for Certain Technology). A disagreement between the Parties on such payment allocation shall be resolved in accordance with Section 13.4 (Baseball Arbitration). In the event a Party exercises the Opt-Out Right under Section 6.8 (Opt-Out Right), from and after the Opt-Out Date, the Primary Party shall pay [***] of Moderna's Third Party Payment under such Co-Co Moderna In-License Agreement, subject to Section 7.11.2(d) (Third Party Payments).

5.10.4 **Co-Co Metagenomi In-License Agreements**.

(a) **Co-Co Metagenomi In-License Agreements**. Notwithstanding any provision in this Agreement to the contrary, during the Term for the DT Co-Co Program, Metagenomi shall have the right to determine, in its sole discretion, whether any Patents or Know-How under any Co-Co Metagenomi In-License Agreement can and should be sublicensed to Moderna for such DT Co-Co Program. If Metagenomi determines that any such Patents or Know-How can and should be sublicensed to Moderna for such DT Co-Co Program, then Metagenomi shall disclose to Moderna the terms of such Co-Co Metagenomi In-License Agreement (including by providing a copy of such Co-Co Metagenomi In-License Agreement to Moderna), subject to applicable confidentiality obligations and reasonable redaction of provisions that do not relate to the potential use of such Patents and Know-How for the performance by Moderna of its existing or future activities in the DT Co-Co Program. After Moderna has had an opportunity to review the terms of such Co-Co Metagenomi In-License Agreement and has agreed in writing to be subject to such terms, (i) such Patents and Know-How shall be deemed "Controlled" by Metagenomi or its Affiliates for purposes of this Agreement and shall be included in the Metagenomi Licensed

DT Co-Co Technology, (ii) the Parties shall allocate any royalty or other payment obligations to the applicable Third Party in connection with such Patents or Know-How in accordance with Section 5.10.4(b) (Payments under Co-Co Metagenomi In-License Agreements), and (iii) Moderna stipulates and agrees that the rights and licenses granted to it under this Agreement are subject to the applicable terms of such Co-Co Metagenomi In-License Agreement, and Moderna hereby agrees to comply with those terms. Moderna further stipulates and agrees that Metagenomi's ability to comply with its obligations, and grant rights and licenses to Moderna, under this Agreement may be limited by requirements and restrictions imposed on Metagenomi under such Co-Co Metagenomi In-License Agreement, and notwithstanding any provision to the contrary set forth in this Agreement, Metagenomi shall not be required to take any action that would cause it to be in breach of any such Co-Co Metagenomi In-License Agreement. If Metagenomi does not notify Moderna of a Co-Co Metagenomi In-License Agreement, then no Patents or Know-How under such Co-Co Metagenomi In-License Agreement shall be deemed "Controlled" by Metagenomi or its Affiliates for purposes of this Agreement, and they shall be excluded from the Metagenomi Licensed DT Co-Co Technology.

(b) **Payments under Co-Co Metagenomi In-License Agreements**. In the event the subject matter of a Co-Co Metagenomi In-License Agreement is broader than the Patents and Know-How thereunder that is included in the Metagenomi Licensed DT Co-Co Technology pursuant to Section 5.10.4(a) (Co-Co Metagenomi In-License Agreements), the Parties shall negotiate in good faith and reasonably allocate to Moderna the obligation to pay that portion of Metagenomi's Third Party Payment under such Co-Co Metagenomi In-License Agreement that is attributable to Moderna's exercise of its licenses or rights to such Patents or Know-How, subject to Section 5.10.5 (Metagenomi Payments for Certain Technology). A disagreement between the Parties on such payment allocation shall be resolved in accordance with Section 13.4 (Baseball Arbitration). In the event a Party exercises the Opt-Out Right under Section 6.8 (Opt-Out Right), from and after the Opt-Out Date, the Primary Party shall pay [***] of Metagenomi's Third Party Payment under such Co-Co Metagenomi In-License Agreement, subject to Section 7.11.2(d) (Third Party Payments).

5.10.5 **Metagenomi Payments for Certain Technology**. Notwithstanding the foregoing provisions of this Section 5.10 (Third Party In-Licenses in the DT Co-Co Program), if and to the extent any Patents or Know-How under a Co-Co Metagenomi In-License Agreement is necessary or reasonably useful to Exploit any Gene-Editing proteins (including the making or using thereof), that are the preferred choice for the applicable DT Co-Co Products, by reference to scientific merit, manufacturing ease, clinical safety and effectiveness, patentability and other relevant factors, Metagenomi shall bear [***] of the Third Party Payments under such Co-Co Metagenomi In-License Agreement attributable to each Party's Exploitation thereof in the DT Co-Co Program; provided that, from and after Metagenomi Opts-Out of the DT Co-Co Program, Moderna shall bear [***] of the Third Party Payments attributable to its continued Exploitation of the Patents and Know-How under the Co-Co Metagenomi In-License Agreement, subject to Section 7.11.2(d) (Third Party Payments), provided further that, notwithstanding anything else herein to the contrary, and without prejudicing Moderna's rights under Section 7.11.2(d) (Third Party Payments), [***] of such Third Party Payments may be deducted from any royalty payments to Metagenomi under Section 7.11.2 (Opt-Out Royalties) for the applicable DT Co-Co Product provided such deduction may not result in a reduction in excess of [***] of the royalties that otherwise would have been due and payable to Metagenomi under Section 7.11.2 (Opt-Out

Royalties). In addition, notwithstanding anything else herein to the contrary, and without prejudicing Moderna's rights under Section 7.11.2(d) (Third Party Payments), from and after Metagenomi Opts-Out of the DT Co-Co Program, [***] of Moderna's Third Party Payments under any and all Co-Co Moderna In-License Agreements for Patents or Know-How necessary to Exploit any Gene-Editing proteins (including the making or using thereof) due to the Metagenomi Gene-Editing proteins being Covered by such Patents or Know-How or due to the Metagenomi Gene-Editing proteins being materially less efficacious than the Third Party Gene-Editing proteins, may be deducted from any royalty payments to Metagenomi under Section 7.11.2 (Opt-Out Royalties) for the applicable DT Co-Co Product provided such deduction may not result in a reduction in excess of [***] of the royalties that otherwise would have been due and payable to Metagenomi under Section 7.11.2 (Opt-Out Royalties).

5.10.6 **Moderna Payments for Certain Technology**. Notwithstanding the foregoing provisions of this Section 5.10 (Third Party In-Licenses in the DT Co-Co Program), if and to the extent any Patents or Know-How under a Co-Co Moderna In-License Agreement is necessary or reasonably useful to Exploit any mRNA-LNP Technology (including the making or using thereof), that are the preferred choice for the applicable DT Co-Co Products, by reference to scientific merit, manufacturing ease, clinical safety and effectiveness, patentability and other relevant factors, Moderna shall bear [***] of the Third Party Payments attributable to each Party's Exploitation thereof in the DT Co-Co Program, provided that, from and after Moderna Opts-Out of the DT Co-Co Program, Metagenomi shall bear [***] of the Third Party Payments attributable to its continued Exploitation of the Patents and Know-How under the Co-Co Moderna In-License Agreement, subject to Section 7.11.2(d) (Third Party Payments).

5.11 **Third Party In-Licenses in RT Programs**.

5.11.1 **Existing RT In-Licenses**. The Parties agree that the agreements listed on **Schedule G** (Existing RT In-Licenses) are existing in-licenses entered into by each Party that relate or pertain to the RT Programs. Each stipulates and agrees that the rights and licenses granted to it under this Agreement are subject to the applicable terms of all such existing in-licenses of the other Party as such terms exist on the Effective Date, and such Party hereby agrees to comply with those terms. The Party that is a party to such an existing in-license has provided to the other Party a true and correct copy of such in-license prior to the Effective Date. Each Party further stipulates and agrees that the other Party's ability to comply with its obligations, and grant rights and licenses to such Party under this Agreement may be limited by requirements and restrictions imposed on the other Party under such existing in-licenses, and notwithstanding any provision to the contrary set forth in this Agreement, the other Party shall not be required to take any action that would cause it to be in breach of any such existing in-license.

5.11.2 **Future RT In-Licenses**. Except as otherwise expressly provided herein, each Party shall have the right, in its sole discretion, to independently negotiate, obtain and maintain rights to use any and all Patents or Know-How held by a Third Party (whether through acquisition or license) that relates or otherwise pertains to the RT Programs. Subject to the provisions of this Agreement, each Party shall be responsible for all obligations under the agreements with the relevant Third Parties to acquire such rights. Such agreements shall be referred to as "**RT Moderna In-License Agreements**" in the event such Party is Moderna (or any of its Affiliates) and "**RT Metagenomi In-License Agreements**" in the event such Party is Metagenomi (or any of its Affiliates).

5.11.3 **RT Moderna In-License Agreements**. Notwithstanding any provision in this Agreement to the contrary, on an RT Program-by-RT Program basis, during the RT Research Term, Moderna shall have the right to determine, in its sole discretion, whether any Patents or Know-How under any RT Moderna In-License Agreement can and should be sublicensed to Metagenomi for such RT Program. If Moderna determines that any such Patents or Know-How can and should sublicensed to Metagenomi for such RT Program, then Moderna shall disclose to Metagenomi the terms of such RT Moderna In-License Agreement (including by providing a copy of such RT Moderna In-License Agreement to Metagenomi), subject to applicable confidentiality obligations and reasonable redaction of provisions that do not relate to the potential use of such Patents and Know-How for the performance by Metagenomi of its existing or future activities under the RT Plan. Upon such disclosure, (i) such Patents and Know-How shall be deemed "Controlled" by Moderna or its Affiliates for purposes of this Agreement and shall be included in Moderna's RT Research Licensed Technology and (ii) subject to Section 5.11.5 (Metagenomi Payments for Certain Technology), Moderna shall pay all (subject to Section 7.9.4 (Third Party Payments)) Third Party Payments under such RT Moderna In-License Agreement. After Metagenomi has had an opportunity to review the terms of such RT Moderna In-License Agreement and has agreed in writing to be subject to such terms (provided that Metagenomi may only object to being subjected to such terms if it would have a material impact on Metagenomi's business outside the collaboration contemplated by this Agreement), Metagenomi stipulates and agrees that the rights and licenses granted to it under this Agreement are subject to the applicable terms of such RT Moderna In-License Agreement, and Metagenomi hereby agrees to comply with those terms. Metagenomi further stipulates and agrees that Moderna's ability to comply with its obligations, and grant rights and licenses to Metagenomi, under this Agreement may be limited by requirements and restrictions imposed on Moderna under such RT Moderna In-License Agreement, and notwithstanding any provision to the contrary set forth in this Agreement, Moderna shall not be required to take any action that would cause it to be in breach of any such RT Moderna In-License Agreement. If Moderna does not notify Metagenomi of an RT Moderna In-License Agreement, no Patents or Know-How under such RT Moderna In-License Agreement shall be "Controlled" by Moderna or its Affiliates for purposes of this Agreement, and they shall be excluded from Moderna's RT Research Licensed Technology.

5.11.4 **RT Metagenomi In-License Agreements**. Notwithstanding any provision in this Agreement to the contrary, on a RT Program-by-RT Program basis, during the RT Research Term, Metagenomi shall disclose to Moderna all RT Metagenomi In-License Agreements (including by providing a copy of such RT Metagenomi In-License Agreement to Moderna). Metagenomi shall use reasonable efforts to ensure that any such rights acquired under any RT Metagenomi In-License Agreement are freely sublicensable to Moderna hereunder, provided if Metagenomi (or any of its Affiliates) is unable to obtain the right to grant a sublicense to Moderna for any RT Program under all intellectual property rights licensed to Metagenomi (or its Affiliate) under such RT Metagenomi In-License Agreement, then Metagenomi (or its Affiliate) shall exclude any such intellectual property rights for the applicable RT Program from the scope of such RT Metagenomi In-License Agreement and shall promptly notify Moderna that it has entered into such RT Metagenomi In-License Agreement. In the event Moderna so elects, and to the extent such Patents and Know-How are sublicensable, (i) the applicable Patents and Know-How under

such RT Metagenomi In-License Agreement shall be deemed "Controlled" by Metagenomi or its Affiliates for purposes of this Agreement as part of Metagenomi's RT Program Technology and (ii) subject to Sections 5.11.5 (Metagenomi Payments for Certain Technology), 5.11.6 (Moderna Payments for Certain Technology) and 7.9.4 (Third Party Payments), Moderna shall pay all Third Party Payments under such RT Metagenomi In-License Agreement. Moderna stipulates and agrees that the rights and licenses granted to it under this Agreement are subject to the applicable terms of such RT Metagenomi In-License Agreements, and Moderna hereby agrees to comply with those terms. Moderna further stipulates and agrees that Metagenomi's ability to comply with its obligations, and grant rights and licenses to Moderna, under this Agreement may be limited by requirements and restrictions imposed on Metagenomi under such RT Metagenomi In-License Agreements, and notwithstanding any provision to the contrary set forth in this Agreement, Metagenomi shall not be required to take any action that would cause it to be in breach of any such RT Metagenomi In-License Agreements.

5.11.5 **Metagenomi Payments for Certain Technology**. Notwithstanding the foregoing provisions of this Section 5.11 (Third Party In-Licenses in RT Programs), if and to the extent any Patents or Know-How under an RT Metagenomi In-License Agreement is necessary to Exploit any Gene-Editing proteins (including the making or using thereof) that are the preferred choice for the applicable Licensed RT Products, by reference to scientific merit, manufacturing ease, clinical safety and effectiveness, patentability and other relevant factors, Metagenomi shall bear [***] of the Third Party Payments attributable to each Party's Exploitation thereof in the applicable RT Programs. Moderna shall bear [***] of the Third Party Payments attributable to each Party's Exploitation of any Patents or Know-How under an RT Moderna In-License Agreement necessary to Exploit any Gene-Editing proteins (including the making or using thereof), in each case where such Patents or Know-How is necessary either due to the Metagenomi Gene-Editing proteins being covered by such Patents or Know-How or due to the Metagenomi Gene-Editing proteins being materially less efficacious than the Third Party Gene-Editing proteins, subject to Section 7.9.4 (Third Party Payments), provided that, notwithstanding anything else herein to the contrary, and without prejudicing Moderna's rights under Section 7.9.4 (Third Party Payments), [***] of such Third Party Payments may be deducted from any royalty payments to Metagenomi under Section 7.9 (Royalties on Products Directed Against an RT Target) and for the applicable Licensed RT Product provided such deduction may not result in a reduction in excess of [***] of the royalties that otherwise would have been due and payable to Metagenomi under Section 7.9 (Royalties on Products Directed Against an RT Target).

5.11.6 **Moderna Payments for Certain Technology**. After Moderna exercises the RT Option for such RT Program, the Patents and Know-How elected by Moderna pursuant to Section 5.11.4 (RT Metagenomi In-License Agreements) shall automatically be included in Metagenomi's Licensed RT Technology with respect to such RT Program. Subject to Section 5.11.5 (Metagenomi Payments for Certain Technology), in the event the subject matter of the relevant RT Metagenomi In-License Agreement is broader than such Patents and Know-How, the Parties shall negotiate in good faith and reasonably allocate to Moderna the obligation to pay that portion of Metagenomi's Third Party Payment under the applicable RT Metagenomi In-License Agreement that is attributable to Moderna's exercise of its licenses or rights to such Patents or Know-How after Moderna exercises the RT Option. Moderna's such payment obligations are subject to Section 7.9.4 (Third Party Payments) as if such payments constituted Moderna's payments to a Third Party contemplated by Section 7.9.4 (Third Party Payments), provided Moderna shall pay Metagenomi additional payments to reflect the effect of Section 7.9.4 (Third Party Payments) had Moderna been the Party to such RT Metagenomi In-License Agreement and paid all payments to the Third Party thereunder.

5.12 **Third Party In-Licenses in DT Programs**.

5.12.1 **Existing DT In-Licenses**. The Parties agree that the agreements listed on **Schedule H** (Existing DT In-Licenses) are existing in-licenses entered into by each Party that relate or pertain to the DT Programs. Each stipulates and agrees that the rights and licenses granted to it under this Agreement are subject to the applicable terms of all such existing in-licenses of the other Party as such terms exist on the Effective Date, and such Party hereby agrees to comply with those terms. The Party that is a party to such an existing in-license has provided to the other Party a true and correct copy of such in-license prior to the Effective Date. Each Party further stipulates and agrees that the other Party's ability to comply with its obligations, and grant rights and licenses to such Party under this Agreement may be limited by requirements and restrictions imposed on the other Party under such existing in-licenses, and notwithstanding any provision to the contrary set forth in this Agreement, the other Party shall not be required to take any action that would cause it to be in breach of any such existing in-license.

5.12.2 **Future DT In-Licenses**. Except as otherwise expressly provided herein, each Party shall have the right, in its sole discretion, to independently negotiate, obtain and maintain rights to use any and all Patents or Know-How held by a Third Party (whether through acquisition or license) that relates or otherwise pertains to the DT Programs. Subject to the provisions of this Agreement, each Party shall be responsible for all obligations under the agreements with the relevant Third Parties to acquire such rights. Such agreements shall be referred to as "**DT Moderna In-License Agreements**" in the event such Party is Moderna (or any of its Affiliates) and "**DT Metagenomi In-License Agreements**" in the event such Party is Metagenomi (or any of its Affiliates).

5.12.3 **DT Moderna In-License Agreements**. Notwithstanding any provision in this Agreement to the contrary, on a DT Program-by-DT Program basis, during the DT Moderna Research Term, Moderna shall have the right to determine, in its sole discretion, whether any Patents or Know-How under any DT Moderna In-License Agreement can and should be sublicensed to Metagenomi for such DT Program. If Moderna determines that any such Patents or Know-How can and should be sublicensed to Metagenomi for such DT Program, then Moderna shall disclose to Metagenomi the terms of such DT Moderna In-License Agreement (including by providing a copy of such DT Moderna In-License Agreement to Metagenomi), subject to applicable confidentiality obligations and reasonable redaction of provisions that do not relate to the potential use of such Patents and Know-How for the performance by Metagenomi of its existing or future activities under the DT Plan. Upon such disclosure, (i) such Patents and Know-How shall be deemed "Controlled" by Moderna or its Affiliates for purposes of this Agreement and shall be included in Moderna's DT Moderna Research Licensed Technology and (ii) subject to Section 5.12.5 (Metagenomi Payments for Certain Technology), Moderna shall pay all (subject to Section 7.10.4 (Third Party Payments)) Third Party Payments under such DT Moderna In-License Agreement. After Metagenomi has had an opportunity to review the terms of such DT Moderna In-License Agreement and has agreed in writing to be subject to such terms (provided that Metagenomi may only object to being subjected to such terms if it would have a material

impact on Metagenomi's business outside the collaboration contemplated by this Agreement), Metagenomi stipulates and agrees that the rights and licenses granted to it under this Agreement are subject to the applicable terms of such DT Moderna In-License Agreement, and Metagenomi hereby agrees to comply with those terms. Metagenomi further stipulates and agrees that Moderna's ability to comply with its obligations, and grant rights and licenses to Metagenomi, under this Agreement may be limited by requirements and restrictions imposed on Moderna under such DT Moderna In-License Agreement, and notwithstanding any provision to the contrary set forth in this Agreement, Moderna shall not be required to take any action that would cause it to be in breach of any such DT Moderna In-License Agreement. If Moderna does not notify Metagenomi of a DT Moderna In-License Agreement, no Patents or Know-How under such DT Moderna In-License Agreement shall be "Controlled" by Moderna or its Affiliates for purposes of this Agreement, and they shall be excluded from Moderna's DT Moderna Research Licensed Technology.

5.12.4 **DT Metagenomi In-License Agreements**. Notwithstanding any provision in this Agreement to the contrary, on a DT Program-by-DT Program basis, during the DT Moderna Research Term, Metagenomi shall disclose to Moderna all DT Metagenomi In-License Agreements (including by providing a copy of such DT Metagenomi In-License Agreement to Moderna). Metagenomi shall use reasonable efforts to ensure that any such rights acquired under any DT Metagenomi In-License Agreement are freely sublicensable to Moderna hereunder, provided if Metagenomi (or any of its Affiliates) is unable to obtain the right to grant a sublicense to Moderna for any DT Program under all intellectual property rights licensed to Metagenomi (or its Affiliate) under such DT Metagenomi In-License Agreement, then Metagenomi (or its Affiliate) shall exclude any such intellectual property rights for the applicable DT Program from the scope of such DT Metagenomi In-License Agreement and shall promptly notify Moderna that it has entered into such DT Metagenomi In-License Agreement. In the event Moderna so elects, and to the extent such Patents and Know-How are sublicensable, (i) the applicable Patents and Know-How under such DT Metagenomi In-License Agreement shall be deemed "Controlled" by Metagenomi or its Affiliates for purposes of this Agreement as part of Metagenomi's DT Program Technology and (ii) subject to Sections 5.12.5 (Metagenomi Payments for Certain Technology), 5.12.6 (Moderna Payments for Certain Technology) and 7.10.4 (Third Party Payments), Moderna shall pay all Third Party Payments under such DT Metagenomi In-License Agreement. Moderna stipulates and agrees that the rights and licenses granted to it under this Agreement are subject to the applicable terms of such DT Metagenomi In-License Agreements, and Moderna hereby agrees to comply with those terms. Moderna further stipulates and agrees that Metagenomi's ability to comply with its obligations, and grant rights and licenses to Moderna, under this Agreement may be limited by requirements and restrictions imposed on Metagenomi under such DT Metagenomi In-License Agreements, and notwithstanding any provision to the contrary set forth in this Agreement, Metagenomi shall not be required to take any action that would cause it to be in breach of any such DT Metagenomi In-License Agreements.

5.12.5 **Metagenomi Payments for Certain Technology**. Notwithstanding the foregoing provisions of this Section 5.12 (Third Party In-Licenses in DT Programs), if and to the extent any Patents or Know-How under a DT Metagenomi In-License Agreement is necessary to Exploit Gene-Editing proteins (including the making or using thereof) that are the preferred choice for the applicable Licensed DT Products, by reference to scientific merit, manufacturing ease, clinical safety and effectiveness, patentability and other relevant factors, Metagenomi shall bear

[***] of the Third Party Payments attributable to each Party's Exploitation thereof in the applicable DT Programs. Moderna shall bear [***] of the Third Party Payments attributable to each Party's Exploitation of any Patents or Know-How under a DT Moderna In-License Agreement necessary to Exploit any Gene-Editing proteins (including the making or using thereof) in each case where such Patents or Know-How is necessary either due to the Metagenomi Gene-Editing proteins being covered by such Patents or Know-How or due to the Metagenomi Gene-Editing proteins being materially less efficacious than the Third Party Gene-Editing protein, subject to Section 7.10.4 (Third Party Payments), provided that, notwithstanding anything else herein to the contrary, and without prejudicing Moderna's rights under Section 7.10.4 (Third Party Payments), [***] of such Third Party Payments may be deducted from any royalty payments to Metagenomi under Section 7.10 (Royalties on Products Directed Against a DT Moderna Target) for the applicable Licensed DT Product provided such deduction may not result in a reduction in excess of [***] of the royalties that otherwise would have been due and payable to Metagenomi under Section 7.10 (Royalties on Products Directed Against a DT Moderna Target).

5.12.6 **Moderna Payments for Certain Technology**. After Moderna exercises the DT Option for such DT Program, the Patents and Know-How elected by Moderna pursuant to Section 5.12.4 (DT Metagenomi In-License Agreements) shall automatically be included in Metagenomi's Licensed DT Moderna Technology with respect to such DT Program. Subject to Section 5.12.5 (Metagenomi Payments for Certain Technology), in the event the subject matter of the relevant DT Metagenomi In-License Agreement is broader than such Patents and Know-How, the Parties shall negotiate in good faith and reasonably allocate to Moderna the obligation to pay that portion of Metagenomi's Third Party Payment under the applicable DT Metagenomi In-License Agreement that is attributable to Moderna's exercise of its licenses or rights to such Patents or Know-How after Moderna exercises the DT Option. Moderna's such payment obligations are subject to Section 7.10.4 (Third Party Payments) as if such payments constituted Moderna's payments to a Third Party contemplated by Section 7.10.4 (Third Party Payments), provided Moderna shall pay Metagenomi additional payments to reflect the effect of Section 7.10.4 (Third Party Payments) had Moderna been the Party to such DT Metagenomi In-License Agreement and paid all payments to the Third Party thereunder.

5.13 **License to Moderna Upon Exercise of the RT Option**. On an RT Preclinical Research Program-by-RT Preclinical Research Program basis, upon Moderna's exercise of the RT Option (pursuant to Section 3.9 (RT Option)) with respect to the RT Target under such RT Preclinical Research Program, effective as of the applicable License Effective Date, all RT Candidates in such RT Preclinical Research Program shall become Licensed RT Products in such RT Preclinical Research Program, and Metagenomi agrees to grant and hereby grants to Moderna an exclusive (even as to Metagenomi and its Affiliates) license, with the right to sublicense through multiple tiers, under Metagenomi's Background Technology, Metagenomi's RT Program Technology with respect to such RT Preclinical Research Program, and all other Metagenomi Program Technology and Metagenomi's interest in any Joint IP, in each case relevant to such RT Preclinical Research Program (collectively, the "**Licensed RT Technology**"), to Exploit all applications of the RT Target in such RT Preclinical Research Program, including all Licensed RT Products in such RT Preclinical Research Program, for any use in the Territory in the RT Field during the Term (the "**RT License**"). During the Term, Metagenomi shall ensure that it Controls all Know-How or Patents claiming or Covering Gene Editing conceived, discovered, invented or created by or on behalf of Metagenomi (including jointly with others) so as to be able to grant

Moderna the foregoing license. For clarity, on an RT Preclinical Research Program-by-RT Preclinical Research Program basis, with respect to the RT Target in the RT Field in an RT Preclinical Research Program for which Moderna has not exercised an RT Option by the end of the applicable RT Option Period, (i) the foregoing license does not grant and shall not grant any rights to Moderna with respect to such RT Target in the RT Field, and (ii) Metagenomi shall retain all rights to Metagenomi Program Technology and Metagenomi's interest in any Joint IP (a) with respect to such RT Target in the RT Field and (b) with respect to any Field other than the RT Field, except as expressly set forth herein otherwise.

5.14 **RT Technology Transfer**. On an RT Preclinical Research Program-by-RT Preclinical Research Program basis:

5.14.1 as soon as reasonably practicable but in any event no less than thirty (30) days after the RT Option Exercise Date for such RT Preclinical Research Program, Metagenomi shall provide to Moderna with (i) one (1) electronic copy of all of Metagenomi's RT Records and RT Results created or generated in all RT Programs as of the RT Option Exercise Date; (ii) one (1) electronic copy of all documents, data or other Know-How in Metagenomi's possession or Control as of the RT Option Exercise Date that describes or contains the Licensed RT Technology; (iii) all Materials within the Licensed RT Technology in Metagenomi's possession or Control as of the RT Option Exercise Date, and (iv) the RT Target and Licensed RT Products in such RT Preclinical Research Program designed, created, synthesized or otherwise Manufactured by or on behalf of Metagenomi as of the RT Option Exercise Date;

5.14.2 following the receipt of the RT Option Fee for such RT Preclinical Research Program, from time to time during the Term, Metagenomi shall provide to Moderna one (1) electronic copy of all documents, data or other Know-How in Metagenomi's possession or Control that describes or contains the Licensed RT Technology and all Materials within the Licensed RT Technology in Metagenomi's possession or Control for such RT Preclinical Research Program but was not previously provided; and

5.14.3 following the receipt of the RT Option Fee for such RT Preclinical Research Program, during the Term, Metagenomi shall reasonably cooperate with Moderna to facilitate the technology transfer of the Licensed RT Technology, RT Candidates and the RT Target in such RT Preclinical Research Program to Moderna to enable the Development, Manufacture or Commercialization of such RT Candidates and the RT Target in the RT Field in the Territory. Such cooperation shall include providing Moderna with reasonable access by teleconference or in-person at Metagenomi's facilities to appropriate personnel from Metagenomi to provide Moderna with technical assistance and consultation in connection with the transfer of such Licensed RT Technology, RT Candidates and RT Target. Metagenomi shall provide such cooperation for no additional consideration during the RT Research Term, and for [***] thereafter. After the expiration of such [***] period, Moderna shall reimburse Metagenomi for its reasonable costs to provide such cooperation.

5.15 **License to Moderna Upon Exercise of the DT Option**. On a DT Moderna Research Program-by-DT Moderna Research Program basis, upon Moderna's exercise of the DT Option (pursuant to Section 4.9 (DT Option)) with respect to the DT Target under such DT Moderna Research Program, effective as of the applicable License Effective Date, all DT Moderna Candidates in such DT Moderna Research Program shall become Licensed DT Products, and Metagenomi agrees to grant and hereby grants to Moderna an exclusive (even as to Metagenomi and its Affiliates) license, with the right to sublicense through multiple tiers, under Metagenomi's Background Technology, Metagenomi's DT Program Technology with respect to such DT Moderna Research Program, and all other Metagenomi Program Technology and Metagenomi's interest in any Joint IP, in each case relevant to such DT Moderna Research Program (collectively, the "**Licensed DT Moderna Technology**"), to Exploit all applications of the DT Moderna Target in such DT Moderna Research Program, including all Licensed DT Products in such DT Moderna Research Program, for any use in the Territory in the DT Field during the Term (the "**DT License**"). During the Term, Metagenomi shall ensure that it Controls all Know-How or Patents claiming or Covering Gene Editing conceived, discovered, invented or created by or on behalf of Metagenomi (including jointly with others) so as to be able to grant Moderna the foregoing license. For clarity, on a DT Moderna Research Program-by-DT Moderna Research Program basis, with respect to the DT Moderna Target in the DT Field in a DT Moderna Research Program for which Moderna has not exercised a DT Option by the end of the applicable DT Option Period, (i) the foregoing license does not grant and shall not grant any rights to Moderna with respect to such DT Target in the DT Field, and (ii) Metagenomi shall retain all rights to Metagenomi Program Technology and Metagenomi's interest in any Joint IP (a) with respect to such DT Target in the DT Field, and (b) with respect to any Field other than the DT Field except as expressly set forth herein otherwise.

5.16 **DT Technology Transfer**. On a DT Moderna Research Program-by-DT Moderna Research Program basis:

5.16.1 as soon as reasonably practicable but in any event no less than thirty (30) days after the DT Option Exercise Date for such DT Moderna Research Program, Metagenomi shall provide to Moderna with (i) one (1) electronic copy of all of Metagenomi's DT Moderna Records and DT Moderna Results created or generated in all DT Programs as of the DT Option Exercise Date; (ii) one (1) electronic copy of all documents, data or other Know-How in Metagenomi's possession or Control as of the DT Option Exercise Date that describes or contains the Licensed DT Moderna Technology; (iii) all Materials within the Licensed DT Moderna Technology in Metagenomi's possession or Control as of the DT Option Exercise Date; and (iv) the DT Moderna Target and Licensed DT Products in such DT Moderna Research Program designed, created, synthesized or otherwise Manufactured by or on behalf of Metagenomi as of the DT Option Exercise Date;

5.16.2 following the receipt of the DT Option Fee for such DT Moderna Research Program, from time to time during the Term, Metagenomi shall provide to Moderna one (1) electronic copy of all documents, data or other Know-How in Metagenomi's possession or Control that describes or contains the Licensed DT Moderna Technology and all Materials within the Licensed DT Moderna Technology in Metagenomi's possession or Control for such DT Moderna Research Program but was not previously provided; and

5.16.3 following the receipt of the DT Option Fee for such DT Moderna Research Program, during the Term, Metagenomi shall reasonably cooperate with Moderna to facilitate the technology transfer of the Licensed DT Moderna Technology, Licensed DT Products and the DT Moderna Target in such DT Moderna Research Program to Moderna to enable the Development, Manufacture or Commercialization of such Licensed DT Product and the DT Moderna Target in the DT Field in the Territory. Such cooperation shall include providing Moderna with reasonable access by teleconference or in-person at Metagenomi's facilities to appropriate personnel from Metagenomi to provide Moderna with technical assistance and consultation in connection with the transfer of such Licensed DT Moderna Technology, Licensed DT Products and DT Moderna Target. Metagenomi shall provide such cooperation for no additional consideration during the DT Moderna Research Term, and for [***]. After the expiration of such [***] period, Moderna shall reimburse Metagenomi for its reasonable costs to provide such cooperation.

Notwithstanding the foregoing provisions of this Section 5.16 (DT Technology Transfer), Metagenomi's obligations under this Section 5.16 (DT Technology Transfer) and Section 5.17 (Metagenomi Licensed Collaboration Technology Update) with respect to Licensed DT Moderna Technology shall be limited to (i) Licensed DT Moderna Technology that comes into the Control of Metagenomi or any of its Affiliates prior to the [***] of the expiration of the DT Moderna Research Term (including, for the avoidance of doubt, prior to or during the DT Moderna Research Term), (ii) any and all improvements to such Licensed DT Moderna Technology that comes into the Control of Metagenomi or any of its Affiliates within [***] after the expiration of the DT Moderna Research Term, and (iii) in the event there is any fundamental issue with any of the foregoing Licensed DT Moderna Technology, as reasonably determined by Moderna, that prevents Moderna from Exploiting Licensed DT Products in such DT Moderna Research Program, any Licensed DT Moderna Technology that may resolve such issue and that comes into the Control of Metagenomi or any of its Affiliates within [***]n (10) years after the expiration of the DT Moderna Research Term, in each case ((i)-(iii)), including any and all Patents within Licensed DT Moderna Technology that Cover the Licensed DT Moderna Technology in each of (i)-(iii), and any and all Patents claiming priority, directly or indirectly, to the foregoing Patents, regardless of when any of the foregoing Patent is filed.

5.17 **Metagenomi Licensed Collaboration Technology Update**. Without prejudice to any other obligations of Metagenomi under this Agreement, during the Term, Metagenomi shall (a) provide regular and detailed updates to Moderna and the JSC regarding developments relating to Metagenomi's Background Technology and Metagenomi Licensed Collaboration Technology (including any improvements or modifications thereto) that may have applicability to the Research, Development or Commercialization of any Products, which updates shall be (i) no less frequently than quarterly prior to the [***] of the Effective Date, (ii) on a biannual basis after the [***] of the Effective Date and continuing until the expiration of the Research Term, and (iii) [***] thereafter, and (b) provide Moderna with reasonable access by teleconference or in-person at Metagenomi's facilities to appropriate personnel from Metagenomi to provide Moderna with technical assistance and consultation in connection with such updates or to otherwise support the advancement of the applicable Program. For the avoidance of doubt, to the extent within the definitions of Metagenomi's Background Technology or Metagenomi Licensed Collaboration Technology, as the case may be, such developments shall be automatically included in the licenses granted to Moderna under this Article 5 (Licenses; Exclusivity; Manufacture) without any action on the part of or additional consideration from Moderna.

5.18 **Collaboration Materials Transfer**. If either Party is required to transfer to the other Party any Collaboration Materials pursuant to an applicable Program Plan, the terms of this Section 5.18 (Collaboration Materials Transfer) shall apply. The transferring Party shall provide the other Party with the applicable Collaboration Materials in accordance with the Program Plan. Any Collaboration Materials provided pursuant to the Program Plan shall be accompanied by a material transfer record substantially in the form of **Schedule I** attached hereto ("**Material Transfer Record**"). Each such Material Transfer Record shall be signed by an authorized representative of the providing Party, and then signed by an authorized representative of the receiving Party and returned to the providing Party. The receiving Party shall use the Collaboration Materials solely to conduct the activities contemplated under the Program Plan and for no other purpose. The receiving Party shall not sell, transfer, disclose or otherwise provide access to the Collaboration Materials without the written consent of the providing Party, except that the receiving Party may allow access to the Collaboration Materials to its Affiliates and its and their respective employees and officers who require such access to perform its activities under this Agreement and solely for purposes consistent with this Agreement; provided that the receiving Party binds such Affiliates, employees and officers by written agreement to retain and use the Collaboration Materials only in a manner that is consistent with the terms of this Agreement and the applicable Material Transfer Record. THE COLLABORATION MATERIALS ARE PROVIDED "AS IS." NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, OF ANY KIND, ARE GIVEN BY THE PROVIDING PARTY WITH RESPECT TO ANY OF THE COLLABORATION MATERIALS, INCLUDING THEIR CONDITION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. The receiving Party acknowledges the experimental nature of the Collaboration Materials and that accordingly, not all characteristics of the Collaboration Materials are necessarily known. The Collaboration Materials transfer to be undertaken under this Section 5.18 (Collaboration Materials Transfer) shall be overseen by a Working Group established for such purposes.

5.19 **No Other Rights and Retained Rights**. Nothing in this Agreement shall be interpreted to grant a Party any rights under any intellectual property rights owned or Controlled by the other Party, in each case, that are not expressly granted herein, whether by implication, estoppel, or otherwise. Metagenomi shall not practice the Moderna Licensed Collaboration Technology other than as expressly licensed and permitted under this Agreement. Any rights not expressly granted to Metagenomi by Moderna under this Agreement with respect to the Moderna Licensed Collaboration Technology are hereby retained by Moderna, and Moderna hereby expressly retains the right (on behalf of itself, its Affiliates, and its licensees) to (a) Manufacture the DT Co-Co Products worldwide, and (b) perform Moderna's other obligations under this Agreement. Moderna shall not practice the Metagenomi Licensed Collaboration Technology other than as expressly licensed and permitted under this Agreement. Any rights not expressly granted to Moderna by Metagenomi under this Agreement with respect to the Metagenomi Licensed Collaboration Technology are hereby retained by Metagenomi.

5.20 **RT Exclusivity**. During the RT Research Term and within [***] thereafter (collectively, the "**RT Exclusivity Period**"), except as otherwise required under or expressly set forth in this Agreement, Metagenomi and its Affiliates shall not, itself or with or through any Third Party, nor authorize, (sub)license (including granting any option, covenant not to sue, or other like right thereto) or otherwise enable any Third Party to, directly or indirectly, design, identify, research, manufacture, develop, commercialize or otherwise exploit any candidate or product in the RT Field. After the expiration of the RT Exclusivity Period, for the remainder of the Term of this Agreement, on a RT Target-by-RT Target basis, except as otherwise required under this Agreement, Metagenomi and its Affiliates shall not, itself or with or through any Third Party, nor

authorize, (sub)license (including granting any option, covenant not to sue, or other like right thereto) or otherwise enable any Third Party to, directly or indirectly, design, identify, research, manufacture, develop, commercialize or otherwise exploit in the RT Field any candidate or product Directed Against any RT Targets with respect to which Moderna has exercised the RT Option. During the RT Research Term, except as otherwise required under this Agreement, Metagenomi and its Affiliates shall not, itself or with or through any Third Party, nor authorize, (sub)license (including granting any option, covenant not to sue, or other like right thereto) or otherwise enable any Third Party to, directly or indirectly, design, identify, research, manufacture, develop, commercialize or otherwise exploit any Guide or Donor Template that is specific to any RT Candidate (and, for clarity, excluding Guides and general homology of Donor Templates that are used generally to knock-in a gene but are not specific to the corresponding target). During the Term, except as otherwise required under this Agreement, Metagenomi and its Affiliates shall not, itself or with or through any Third Party, nor authorize, (sub)license (including granting any option, covenant not to sue, or other like right thereto) or otherwise enable any Third Party to, directly or indirectly, design, identify, research, manufacture, develop, commercialize or otherwise exploit any Guide or Donor Template that is specific to any Licensed RT Product from any RT Preclinical Research Program for which Moderna has exercised an RT Option (and, for clarity, excluding Guides and general homology of Donor Templates that are used generally to knock-in a gene but are not specific to the corresponding target). The obligations and restrictions in this Section 5.20 (RT Exclusivity) shall not apply to any New Affiliate of Metagenomi, provided that such New Affiliate is not utilizing the applicable Metagenomi Licensed Collaboration Technology or Moderna Licensed Collaboration Technology with respect to the activity that would otherwise be restricted under this Section 5.20 (RT Exclusivity). Notwithstanding the foregoing provisions of this Section 5.20 (RT Exclusivity), after [***], the term "RT Field" for purposes of this Section 5.20 (RT Exclusivity) shall no longer include BEC.

5.21 **DT Exclusivity**. During the DT Moderna Research Term and within [***] thereafter (collectively, the "**DT Exclusivity Period**"), except as otherwise required under this Agreement, Metagenomi and its Affiliates shall not, itself or with or through any Third Party, nor authorize, (sub)license (including granting any option thereto) or otherwise enable any Third Parties to, directly or indirectly, design, identify, research, manufacture, develop, commercialize or otherwise exploit any candidate or product in the DT Field Directed Against any of the Reserved DT Targets or any of the DT Moderna Targets that is not a Discontinued Target. After the expiration of the DT Exclusivity Period, for the remainder of the Term of this Agreement, on a DT Moderna Target-by-DT Moderna Target basis, except as otherwise required under this Agreement, Metagenomi and its Affiliates shall not, itself or with or through any Third Party, nor authorize, (sub)license (including granting any option thereto) or otherwise enable any Third Party to, directly or indirectly, design, identify, research, manufacture, develop, commercialize or otherwise exploit any candidate or product Directed Against any DT Moderna Targets in the DT Field with respect to which Moderna has exercised the DT Option. Until the first anniversary of the Effective Date, except as otherwise required under this Agreement, Metagenomi and its Affiliates shall not, itself or with or through any Third Party, nor authorize, (sub)license (including granting any option, covenant not to sue, or other like right thereto) or otherwise enable any Third Party to, directly or indirectly, design, identify, research, manufacture, develop, commercialize or otherwise exploit in the in vivo Gene Editing field any Guide or Donor Template that is specific to any DT Moderna Candidate (and, for clarity, excluding Guides and general homology of Donor Templates that are used generally to knock-in a gene but are not specific to the corresponding target). After

the first anniversary of the Effective Date and during the remainder of the DT Moderna Research Term, except as otherwise required under this Agreement, Metagenomi and its Affiliates shall not, itself or with or through any Third Party, nor authorize, (sub)license (including granting any option, covenant not to sue, or other like right thereto) or otherwise enable any Third Party to, directly or indirectly, design, identify, research, manufacture, develop, commercialize or otherwise exploit in the in vivo Gene Editing field any Guide or Donor Template specific to any DT Moderna Candidate Directed Against any Reserved DT Target or DT Moderna Target (and, for clarity, excluding Guides and general homology of Donor Templates that are used generally to knock-in a gene but are not specific to the corresponding target). During the Term, except as otherwise required under this Agreement, Metagenomi and its Affiliates shall not, itself or with or through any Third Party, nor authorize, (sub)license (including granting any option, covenant not to sue, or other like right thereto) or otherwise enable any Third Party to, directly or indirectly, design, identify, research, manufacture, develop, commercialize or otherwise exploit any Guide or Donor Template specific to any Licensed DT Product from any DT Moderna Research Program for which Moderna has exercised a DT Option (and, for clarity, excluding Guides and general homology of Donor Templates that are used generally to knock-in a gene but are not specific to the corresponding target). The obligations and restrictions in this Section 5.21.1 (DT Exclusivity) shall not apply to any New Affiliate of Metagenomi, provided that such New Affiliate is not utilizing the applicable Metagenomi Licensed Collaboration Technology or Moderna Licensed Collaboration Technology with respect to the activity that would otherwise be restricted under this Section 5.21 (DT Exclusivity).

5.22 **DT Co-Co Target Exclusivity**. During the Term of this Agreement, except as otherwise required under this Agreement, Metagenomi and its Affiliates shall not, itself or with or through any Third Party, nor authorize, (sub)license (including granting any option thereto) or otherwise enable any Third Party to, directly or indirectly, design, identify, research, manufacture, develop, commercialize or otherwise exploit in the DT Field any candidate or product Directed Against the DT Co-Co Target, or any Guide or Donor Template specific to any DT Co-Co Candidates or DT Co-Co Products (and, for clarity, excluding Guides and general homology of Donor Templates that are used generally to knock-in a gene but are not specific to the corresponding target). [***]. For clarity, Metagenomi's obligations under this Section 5.22 (DT Co-Co Target Exclusivity) shall continue to apply in the event Metagenomi exercises its Opt-Out Right under Section 6.8 (Opt-Out Right). Notwithstanding anything herein to the contrary, in the event Moderna exercises its Opt-Out Right under Section 6.8 (Opt-Out Right), its obligations under this Section 5.22 (DT Co-Co Target Exclusivity) with respect to the DT Co-Co Target and the DT Co-Co Products in the DT Co-Co Program shall terminate, effective as of the applicable Opt-Out Date. The obligations and restrictions in this Section 5.22 (DT Co-Co Target Exclusivity) shall not apply to a New Affiliate of a Party, provided that such New Affiliate is not utilizing the Metagenomi Licensed Collaboration Technology or the Moderna Licensed Collaboration Technology with respect to the activity that would otherwise be restricted under this Section 5.22 (DT Co-Co Target Exclusivity).

5.23 **Manufacture**. Except as expressly set forth otherwise in this Agreement or in any Program Plan, Moderna shall be responsible for Manufacturing and supply of all non-GMP and GMP mRNA Constructs and LNP formulated Candidates and Products for all Research, Development, and Commercialization activities contemplated under this Agreement or any Program Plan. All decisions concerning such Manufacturing are within the sole discretion of

Moderna. Upon the first DC Nomination under a given DT Co-Co Program, the Parties shall enter a supply agreement to facilitate the activities related to clinical supply contemplated under the applicable Development Plan (a "**Clinical Supply Agreement**"). No later than [***] prior to the anticipated First Commercial Sale of a DT Co-Co Product in the Territory, the Parties shall enter a supply agreement to facilitate the activities related to commercial supply contemplated under the applicable Commercialization Plan (a "**Commercial Supply Agreement**"). The Parties may also enter to one or more quality agreements in conjunction with the foregoing. [***]. Notwithstanding anything herein to the contrary, Moderna may in its sole discretion cease performance of the Manufacturing activities (including any related CMC Activities), if Moderna determines in its sole discretion that there is a Safety Concern with respect to a DT Co-Co Product or Metagenomi Licensed DT Co-Co Technology.

5.24 **Government Approvals**.

5.24.1 **Efforts**. Each Party will use its commercially reasonable good faith efforts to eliminate any concern on the part of any Governmental Authority regarding the legality of the RT License or the DT License prior to their becoming effective, under any Antitrust Law, including, if required by federal or state antitrust authorities, promptly taking commercially reasonable steps to secure government antitrust clearance, including cooperating in good faith with any government investigation, including by making an appropriate response to any request (including a second request) by a Governmental Authority for documents or information. Notwithstanding the foregoing, this Section 5.24.1 (Efforts) and the term "commercially reasonable good faith efforts" do not require that either Party (a) offer, negotiate, commit to or effect, by consent decree, hold separate order, trust or otherwise, the sale, divestiture, license or other disposition of any capital stock, assets, rights, products or businesses of either Party or their respective Affiliates, (b) agree to any restrictions on the businesses of either Party or their respective Affiliates, or (c) pay any amount or take any other action to prevent, effect the dissolution of, vacate, or lift any decree, order, judgment, injunction, temporary restraining order, or other order in any suit or proceeding that would otherwise have the effect of preventing or delaying the transactions contemplated by the RT License or the DT License. For purposes of this Section 5.24 (Government Approvals), "**Antitrust Laws**" means the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, and the rules and regulations promulgated thereunder (the "**HSR Act**"), and any other laws of the U.S. (or a state or territory thereof) or any other Governmental Authority that are designed to prohibit, restrict or regulate actions having the purpose or effect of monopolization or restraint of trade.

5.24.2 **Antitrust Filings**. On a Program-by-Program basis, at the written request of Moderna during the applicable RT Option Period or DT Option Period, each Party will, or will cause their applicable Affiliate(s) to, prepare and file with the U.S. Federal Trade Commission ("**FTC**") and the Antitrust Division of the U.S. Department of Justice ("**DOJ**") any HSR Filing required of such Party under the HSR Act and any other filings, notices, applications or other submissions required of such Party under Antitrust Laws (collectively, "**Antitrust Filings**"), in each case the necessity of which has been determined in the reasonable opinion of Moderna with respect to the transactions contemplated by a RT License or DT License with respect to such Program. The Parties will cooperate with one another to the extent necessary in the preparation of any such Antitrust Filings. Each Party will be responsible for its own costs, expenses, and filing fees associated with any Antitrust Filing; provided, further, that the Parties will equally share all

fees (other than penalties that may be incurred as a result of actions or omissions on the part of a Party, which penalties will be the sole financial responsibility of such Party) required to be paid to any Governmental Authority in connection with making any such Antitrust Filing. In the event that the Parties make any Antitrust Filing(s) under this Section 5.24.2 (Antitrust Filings), but (a) FTC or DOJ obtains a preliminary injunction under the HSR Act against the Parties to enjoin the transactions contemplated by the RT License or the DT License, as applicable, or any other Governmental Authority enjoins the transactions contemplated by the RT License or the DT License, as applicable, in accordance with Antitrust Laws, or (b) the HSR Clearance Date has not occurred and any other applicable antitrust clearances have not been obtained on or prior to three hundred and sixty-five (365) days after the beginning of the RT Option Period or the DT Option Period, as applicable, then within thirty (30) days after the earlier to occur of (a) or (b), Moderna may exercise the RT Option or the DT Option, as applicable, again, with respect to a different RT Target or a different DT Moderna Target, as applicable, and the applicable RT Preclinical Research Program or DT Moderna Research Program will continue. Notwithstanding anything to the contrary contained herein, except for the terms and conditions of this Section 5.24.2 (Antitrust Filings), the RT License or the DT License (including any and all of Moderna's obligations, including payment obligations, thereunder), will not be effective until the "**License Effective Date**," which is agreed and understood to mean the later of (i) the applicable RT Option Exercise Date or DT Option Exercise Date, or (ii) if a determination is made by Moderna pursuant to this Section 5.24.2 (Antitrust Filings) that any Antitrust Filing(s) is required, the receipt of any such required antitrust clearance(s). As used herein: (1) "**HSR Clearance Date**" means the earliest date that all applicable waiting periods under the HSR Act with respect to the transactions contemplated by the applicable RT License or DT License have expired or have been terminated; and (2) "**HSR Filing**" means a filing by the Parties or their ultimate parent entities as that term is defined in the HSR Act with the FTC and the DOJ of a Notification and Report Form for Certain Mergers and Acquisitions (as that term is defined in the HSR Act) with respect to the matters under the applicable RT License or DT License together with all required documentary attachments thereto.

5.24.3 **Information Exchange**. Each Party will, in connection with any Antitrust Filing: (a) reasonably cooperate with each other in connection with any communication, filing or submission and in connection with any investigation or other inquiry, including any proceeding initiated by a private party; (b) keep the other Party or its counsel informed of any communication (and if in writing, provide a copy to the other Party or its counsel) received by such Party from or given by such Party to the FTC, the DOJ or any other Governmental Authority or in connection with any proceeding by a private party, in each case regarding the transactions contemplated by any RT License or DT License; (c) consult with each other in advance of any meeting or conference with the FTC, the DOJ or any other Governmental Authority or, in connection with any proceeding by a private party, with such private party, and to the extent permitted by the FTC, the DOJ or such other Governmental Authority or such private party, give the Parties or their counsel the opportunity to attend and participate in such meetings and conferences; and (d) permit the other Party or its counsel to review in advance any submission, filing or communication (and documents submitted therewith) intended to be given by it to the FTC, the DOJ or any other Governmental Authority, or, in connection with any proceeding by a private party, to such private party; provided, that (i) materials may be redacted to remove references concerning the valuation of the business of Moderna or any Program, and (ii) neither Party is required to share with the other Party its HSR Filing and the documents produced by such Party in response to Items 4c or 4d of its HSR Filing. The Parties, as each deems advisable and necessary, may designate any

competitively sensitive material to be provided to the other under this Section 5.24.3 (Information Exchange) as "Antitrust Counsel Only Material". Such materials and the information contained therein will be given only to the outside antitrust counsel of the recipient and will not be disclosed by such outside counsel to employees, officers or directors of the recipient unless express permission is obtained in advance from the source of the materials (Moderna or Metagenomi, as the case may be) or the applicable Party's legal counsel.

5.24.4 **Assistance**. Subject to this Section 5.24 (Government Approvals), at the reasonable request of Moderna, the Parties will cooperate and use respectively all reasonable efforts to make all other registrations, filings and applications, to give all notices and to obtain as soon as practicable all governmental or other consents, transfers, approvals, orders, qualifications, authorizations, permits and waivers, if any, and to do all other things necessary or desirable for the consummation of the transactions as contemplated by an RT License or DT License in accordance with applicable Antitrust Laws.

5.25 **Payments**. Payments payable under this Article 5 (Licenses; Exclusivity; Manufacture) shall be invoiced by the Party entitled to such payment on a [***] basis to the other Party by delivering an invoice to the other Party within [***] after the end of each applicable Calendar Quarter for the payment due in connection with such Calendar Quarter. No later than [***] after receipt of any such invoice from such Party, the other Party shall make payment of undisputed invoiced amounts for such Calendar Quarter.

Article 6
COLLABORATION ACTIVITIES

6.1 **Lead Party**. Subject to the remainder of this Article 6 (Collaboration Activities) and Article 2 (Governance And Joint Steering Committee), with respect to the DT Co-Co Program and DT Co-Co Products, the Parties acknowledge and agree that each respective Party will lead the following activities (the "**Lead Party**"):

6.1.1 **Moderna as Lead Party**. Moderna shall be the Lead Party for the following in the Ex-U.S. countries: Development (including Clinical Trials), Medical Affairs, Regulatory Filings and Commercialization activities related to DT Co-Co Products.

6.1.2 **Metagenomi as Lead Party**. Metagenomi shall be the Lead Party for Development (including Clinical Trials but subject to Section 2.10.2(a) (Decision-making for DT Co-Co Plans)), Medical Affairs, Regulatory Filings and Commercialization activities related to DT Co-Co Products solely in the U.S.; provided that Moderna may appoint [***] of all medical science liaisons in accordance with Section 6.6.2 (Performance of Medical Affairs) and fifty percent (50%) of the deployed Sales Force in the U.S.

6.2 **DT Co-Co Plans**.

6.2.1 Promptly after the Effective Date, the Parties shall establish a program to discover, Research, Develop and Commercialize DT Co-Co Products within the DT Field Directed Against the DT Co-Co Target (the "**DT Co-Co Program**"). To that end, the Parties shall jointly propose, as applicable, (i) a research plan and budget (the "**DT Co-Co Research Budget**") detailing principal discovery and Research activities to be undertaken by both Parties in the

discovery and Research of DT Co-Co Candidates, which includes the criteria for DC Nomination (the "**DT Co-Co Research Plan**"); (ii) on a DT Co-Co Product-by-DT Co-Co Product basis, for clarity, subsequent to DC Nomination, a Development plan and budget detailing principal Development objectives and the activities to be undertaken by both Parties in the Development of such DT Co-Co Product in the Territory (the "**Development Plan**"); (iii) on a DT Co-Co Product- by-DT Co-Co Product basis, a written plan for the specific Medical Affairs activities to be performed by the Parties for such DT Co-Co Product in the Territory (the "**Medical Affairs Plan**"); and (iv) on a DT Co-Co Product-by-DT Co-Co Product basis, if applicable, a global Commercialization Plan for such DT Co-Co Product (the "**Commercialization Plan**"; together with the DT Co-Co Research Plan, the Development Plan(s) and the Medical Affairs Plan(s), the "**DT Co-Co Plans**"). Each DT Co-Co Plan shall include: (a) the responsibilities of the Parties, and (b) a timeline showing the key activities and timeframes in which such activities are expected to be completed. The initial DT Co-Co Research Plan appended in **Schedule O** (DT Co-Co Research Plan) shall be presented by the Parties to the JSC for approval within [***] after the Effective Date.

6.3 **DT Co-Co Product Research Activities**.

6.3.1 **DT Co-Co Research Plan**. The initial DT Co-Co Research Plan shall be reviewed by the JRC and presented to the JSC for approval. Each Party will have the right to propose modifications or amendments to the DT Co-Co Research Plan, provided that any modifications or amendments to the DT Co-Co Research Plan shall be subject to review by the JRC and approval by the JSC. Each Party shall use Commercially Reasonable Efforts to perform and complete (itself or through its Affiliates or by permitted subcontracting) its obligations under the DT Co-Co Research Plan. Neither Party shall be required to perform any work which is not contemplated by the DT Co-Co Research Plan, unless such additional work is reflected in a mutually agreed amendment to the DT Co-Co Research Plan. Without limiting the JRC's rights to review and discuss and the JSC's rights to approve the DT Co-Co Research Plan and update thereto, the Party to whom a particular Research activity is allocated under the DT Co-Co Research Plan shall have the right, without seeking JRC review or JSC approval, to make operational decisions with respect to the performance of such Research activity to the extent consistent with the then-current DT Co-Co Research Plan. Without limiting the generality of the foregoing, each Party shall use Commercially Reasonable Efforts to reach a DC Nomination during the Initial DT Co-Co Research Term.

If there is no DC Nomination by the end of the Initial DT Co-Co Research Term, the DT Co-Co Program will expire at the end of the Initial DT Co-Co Research Term, regardless of whether Moderna has exercised its Opt-Out Right with respect to such DT Co-Co Program prior to the end of the Initial DT Co-Co Research Term, unless the Parties have expressed their mutual wish to continue with the DT Co-Co Program and negotiated and agreed on whether to revise the DT Co-Co Research Plan, in each case prior to the end of the Initial DT Co-Co Research Term. After the expiration of the DT Co-Co Program, neither Party shall use, nor allow or enable any others to use, any Program Technology specific to the DT Co-Co Target in such DT Co-Co Program in the DT Field for [***], provided that the foregoing shall not apply to Moderna in the event it has exercised its Opt-Out Right prior to the expiration of the DT Co-Co Program.

6.3.2 **Eligible Co-Co Research Costs**. Subject to the last sentence of Section 7.3 (Research Funding), the Parties shall share [***] the Eligible Co-Co Research Costs of all Research activities incurred by or on behalf of either Party that are set forth in the DT Co-Co Research Budget; provided that to the extent that any Research Budget Overspend is not an Allowable Overrun, within [***] after the end of the appliable Calendar Quarter, the JSC shall determine if such Overspend was caused by circumstances within the relevant Party's reasonable control, then, unless otherwise approved by the JSC, such Party shall be solely responsible for such Overspend (and the other Party shall not be responsible for any portion of such Overspend), and if the JSC determines that such Overspend was caused by circumstances outside of the relevant Party's reasonable control or is otherwise approved by the JSC, then each Party shall be responsible for [***] of the Overspend.

6.4 **DT Co-Co Product Development Activities**.

6.4.1 **Overview**. The Lead Party shall lead the conduct of each standalone Clinical Trial in its respective Region with respect to the DT Co-Co Products in the Territory. In the case of international multi-site Clinical Trials involving at least one site in each of the U.S. and at least one country Ex-U.S., the Parties will discuss and agree which Party would lead the conduct for such Clinical Trial taking into consideration the capabilities of each Party to operationally lead such Clinical Trial. Except as expressly set forth otherwise in the Development Plan, Moderna shall be responsible for all CMC Matters and Manufacturing related to the clinical supply of DT Co-Co Products. Notwithstanding anything to the contrary in this Agreement, the Parties may elect to conduct Development activities jointly and allocate specific operational activities in accordance with the Development Plan.

6.4.2 **Diligence**. Moderna and Metagenomi shall each use Commercially Reasonable Efforts to perform all obligations allocated to such Party under each Development Plan for each DT Co-Co Product in the Territory. The applicable Development Plan shall specify which Party shall lead the conduct of each Clinical Trial set forth in the applicable Development Plan and all Clinical Trials and Development activities shall be conducted as set forth in the Development Plan for each DT Co-Co Product in the Territory. Subject to Section 6.4.7 (New Development) and Section 6.4.8 (Combination Products), the Parties shall not perform any Development activities in the Territory for any formulation, Indication, or Combination Product with respect to any DT Co-Co Product other than those formulations, Indications, or Combination Products set forth in the applicable Development Plan in accordance with this Agreement.

6.4.3 **Development Plans**. The initial Development Plan, which will set forth in reasonable detail the anticipated Development activities for the applicable DT Co-Co Products in the Territory and the corresponding Development Budget, shall be reviewed by the JDC and presented to the JSC for approval. Subject to comments and proposed changes by the other Party, each Party will be responsible for the Development Plan for such Party's respective Region. The development plans for each Region will be incorporated into the overall Development Plan. On at least a [***] basis during the Term (or more frequently as may be required), the JDC shall review and update each Development Plan and corresponding Development Budget based on the currently available information and data, including to add (a) any New Collaboration Development Activities that have not yet been included in the Development Plan and Development Budget for a DT Co-Co Product, including the proposed timelines and budget for such New Collaboration Development Activities set forth in the applicable New Development Proposal approved by JDC (as may be amended by the JDC), or (b) any applicable new formulations or Indications pursuant

to Section 6.4.7(a) (New Development Activities) or new Combination Products proposed by the JDC in accordance with Section 6.4.8 (Combination Products). The JDC shall review, discuss, and determine whether to present any such update to any Development Plan or Development Budget for approval by the JSC. Each such update to a Development Plan and corresponding Development Budget shall become effective and shall supersede the previous Development Plan and corresponding Development Budget upon approval thereof by the JSC. Notwithstanding any provision to the contrary set forth in this Agreement, if either Party proposes to include Development activities for a DT Co-Co Product for a particular formulation or Indication in the applicable Development Plan because those Development activities are required or requested by a Regulatory Authority in the Territory, then the JSC shall approve the inclusion of such Development activities in the applicable Development Plan (and corresponding Development Budget). Without limiting the JDC's rights to review and discuss and the JSC's rights to approve each Development Plan and update thereto, the Party to whom a particular Development activity is allocated under the Development Plan shall have the right, without seeking JDC review or JSC approval, to make operational decisions with respect to the performance of such Development activity to the extent consistent with the then-current Development Plan.

6.4.4 **Development Cost Sharing**.

(a) **Eligible Development Costs**. The Parties shall [***] the Eligible Development Costs of all Development activities for DT Co-Co Products in the Territory incurred by or on behalf of either Party that are set forth in the Development Budget; provided that to the extent that any Development Budget Overspend is not an Allowable Overrun, within [***] after the end of the appliable Calendar Quarter, the JSC shall determine if such Overspend was caused by circumstances within the relevant Party's reasonable control, then, unless otherwise approved by the JSC, such Party shall be solely responsible for such Overspend (and the other Party shall not be responsible for any portion of such Overspend), and if the JSC determines that such Overspend was caused by circumstances outside of the relevant Party's reasonable control or is otherwise approved by the JSC, then each Party shall be responsible for [***] of the Overspend.

(b) **Quarterly Reconciliation of Development Costs for DT Co-Co Products**. With respect to each DT Co-Co Product, no later than [***] after the end of each Calendar Quarter, each Party shall deliver to the other Party a written report of the Eligible Development Costs incurred by or on behalf of such Party in connection with the performance of Development activities during such Calendar Quarter (for Moderna, the "**Moderna Development Cost Share Notice**" and for Metagenomi, the "**Metagenomi Development Cost Share Notice**"). For each Calendar Quarter:

(i) If the actual amount set forth in the Metagenomi Development Cost Share Notice exceeds the actual amount set forth in the Moderna Development Cost Share Notice, then no later than [***] after Moderna's receipt of the Metagenomi Development Cost Share Notice for such Calendar Quarter, Moderna shall pay to Metagenomi [***] of the difference between the actual amount set forth in the Metagenomi Development Cost Share Notice and the actual amount set forth in the Moderna Development Cost Share Notice for such Calendar Quarter, such that each Party bears [***] of the aggregate Eligible Development Costs incurred by or on behalf of the Parties during such Calendar Quarter.

(ii) If the actual amount set forth in the Moderna Development Cost Share Notice exceeds the actual amount set forth in the Metagenomi Development Cost Share Notice, then no later than [***] after Metagenomi's receipt of the Moderna Development Cost Share Notice for such Calendar Quarter, Metagenomi shall pay to Moderna [***] of the difference between the actual amount set forth in the Moderna Development Cost Share Notice and the actual amount set forth in the Metagenomi Development Cost Share Notice for such Calendar Quarter, such that each Party bears [***] of the aggregate Eligible Development Costs incurred by or on behalf of the Parties during such Calendar Quarter.

6.4.5 **Development Reports**. At each JDC meeting, (a) Moderna and Metagenomi shall each provide the JDC with a written report summarizing the Development activities for the DT Co-Co Products conducted by or on behalf of each Party since the last JDC meeting, including (i) patient enrollment and the ongoing status of all Clinical Trials, in each case, under any Development Plan and (ii) the status of each pending and proposed Regulatory Filing set forth in the Development Plan for each DT Co-Co Product in the Territory, to the extent not already provided, and without limiting the obligations under Section 6.5 (Regulatory Affairs), (b) Metagenomi shall provide the JDC a summary of the progress and results of Metagenomi Development activities for the DT Co-Co Product, and (c) Moderna shall provide the JDC a summary of the progress and results of Moderna Development activities for the DT Co-Co Product. Each Party shall also promptly provide written notice to the other Party, through the JDC or Alliance Managers, of any significant Development events in the Territory (*e.g.*, Clinical Trial initiation or completion, clinical holds, and Regulatory Approvals) that the reporting Party reasonably believes is of interest to the other Party.

6.4.6 **Assumed Development Activities**. If either Party has defaulted on its obligations to perform one or more Development activities allocated to such Party under a Development Plan in a manner that delays the performance of such matters for a period of more than [***] beyond the timeline set forth in such Development Plan, then the other Party shall provide such defaulting Party with written notice regarding such failure to perform, and upon receipt of such notice the defaulting Party shall have a [***] period to commence the performance of such Development activities in accordance with the terms hereof and the applicable Development Plan (the "**Development Activities Cure Period**"), in any case subject to Section 6.5.1(c) (CMC Matters). If (a) the defaulting Party has not commenced performance of such Development activities during the applicable Development Activities Cure Period, (b) the defaulting Party notifies the non-defaulting Party in writing that the defaulting Party anticipates that it shall be unable to perform such Development activities, or (c) the defaulting Party does not perform such Development activities in accordance with the applicable Development Plan or otherwise in accordance with this Section 6.4 (DT Co-Co Product Development Activities), within a reasonable period of time in accordance with the terms hereof, then, in each case ((a)-(c)), the non-defaulting Party may, upon written notice to the defaulting Party, assume those Development activities that are the subject of such default by the defaulting Party (the "**Assumed Development Activities**"). In connection with the defaulting Party's failure to perform such activities or default of such obligations and the non-defaulting Party's assumption thereof:

(a) the defaulting Party shall work collaboratively and in good faith with the non-defaulting Party, and make its personnel reasonably available to the non-defaulting Party, in each case, in order to (a) transfer of any applicable technology, materials, or contracts with subcontractors to the other Party that are necessary or reasonably useful for the performance of the applicable Assumed Development Activities, and (b) provide such other assistance so as to enable the non-defaulting Party to assume performance of the applicable Assumed Development Activities;

(b) the non-defaulting Party shall thereafter have the right to make operational decisions with respect to the performance of such Assumed Development Activities to the extent consistent with the then-current Development Plan;

(c) the JDC shall update the applicable Development Plan to allocate performance of the Assumed Development Activities to the non-defaulting Party; and

(d) for the avoidance of doubt, Eligible Development Costs incurred in connection with the performance of Assumed Development Activities shall be shared [***] by the Parties as set forth in Section 6.4.4(a) (Eligible Development Costs).

6.4.7 **New Development**.

(a) **New Development Activities**. If either Party proposes to Develop in the Territory, (a) a new formulation of any DT Co-Co Product or (b) any DT Co-Co Product for a new Indication (including any different patient population or line of therapy, which shall be deemed to be a different Indication for purposes of this Section 6.4.7 (New Development)), in each case ((a) and (b)), other than the formulations and Indications set forth in the applicable Development Plan for such DT Co-Co Product ((a) and (b), "**New Development**"), then the proposing Party shall present to the JDC, to review and discuss, a proposal to add such New Development to the Development Plan, for the applicable DT Co-Co Product, including the countries in which such activities would be conducted and the allocation of performance of such activities between the Parties (a "**New Development Proposal**"). Each New Development Proposal shall describe in reasonable detail the applicable non-clinical studies, pre-clinical studies, and Clinical Trials, in each case, that the proposing Party desires to conduct as part of such New Development, including a synopsis of the trial or activities, the proposed enrollment criteria, the number of patients to be included, the endpoints to be measured, and the statistical design and powering (the "**New Development Activities**"), as well as a proposed timeline and budget and an analysis of the business opportunity and revenue potential for such New Development Activities.

(b) **JDC and JSC Decision Regarding New Development Activities**. No later than sixty (60) days after receipt thereof from the proposing Party, the JDC shall review, discuss, and determine whether to present to the JSC for approval, each New Development Proposal.

(c) If the JSC approves a New Development Proposal, upon such an approval, then: (i) the New Development Activities set forth in such New Development Proposal shall be deemed "**New Collaboration Development Activities**" for purposes of this Agreement and (ii) the JDC shall update the Development Plan for such DT Co-Co Product to include such New Collaboration Development Activities for those countries agreed by the JSC, including the proposed timelines and budget, in each case, for such New Development Activities set forth in such New Development Proposal (as may be amended by the JDC and approved by the JSC). Any

New Development Activities included in a Development Plan pursuant to this Section 6.4.7 (New Development) shall be deemed to be Development activities for all purposes under this Section 6.4 (DT Co-Co Product Development Activities). If the JSC does not approve a New Development Proposal, then the New Development Activities proposed in the New Development Proposal shall not be included in any Development Plan, and the proposing Party shall not conduct such New Development Activities in the Territory.

6.4.8 **Combination Products**. [***].

6.4.9 **Standards of Conduct; Development Records**. Moderna and Metagenomi shall perform, and each shall ensure that their Affiliates and licensees and permitted sublicensees (as applicable), and subcontractors perform, all Development activities under each Development Plan, as the case may be, in a good scientific manner, in accordance with GLP, GMP, and GCP, as applicable, and in compliance with Applicable Laws. Each Party and its Affiliates shall maintain written or electronic records, in sufficient detail, in a good scientific manner (in accordance with GLP, GCP, and GMP, as applicable), and appropriate for regulatory and patent purposes, and that are complete and accurate in all material respects and reflect all Development work performed and results achieved, in each case, by or on behalf of such Party and its Affiliates under this Agreement.

6.4.10 **Access to Data**. In addition to its adverse event and safety data reporting obligations set forth in Section 6.5.7 (Pharmacovigilance and Adverse Event Reporting), each Party shall promptly provide the other Party with copies of all data and results and all supporting documentation (*e.g.*, protocols, Investigator's Brochures, case report forms, analysis plans) Controlled by such Party that are generated by or on behalf of such Party or its Affiliates, sublicensees, or subcontractors, if applicable, in the Development of each DT Co-Co Product, to the extent necessary or reasonably useful for the performance of the other Party's Development activities.

6.5 **Regulatory Affairs**.

6.5.1 **Regulatory Responsibilities**.

(a) **Territory**. Pursuant to the Development Plan, the Parties shall collaborate on a regulatory strategy for DT Co-Co Products in the Territory, subject to Section 6.5.1(c) (CMC Matters). The JDC shall review and discuss, the overall strategy for obtaining, supporting, and maintaining Regulatory Approval of each DT Co-Co Product in the Territory (which strategy shall be reflected in each Development Plan) and the JDC shall oversee the implementation of and discuss the progress regarding the same.

(b) **Regulatory Responsibilities**. Subject to [***] and on a Region-by-Region basis, the Regulatory Responsible Party shall lead all regulatory matters relating to the DT Co-Co Products in accordance with the Development Plan. The Regulatory Responsible Party may file for in its name, and shall own, all Regulatory Documentations with respect to each DT Co-Co Product in the applicable country in the Region. Subject to this Section 6.5 (Regulatory Affairs) and on a Region-by-Region basis, the Regulatory Responsible Party shall have the sole right to (a) oversee, monitor, and coordinate all regulatory actions, communications and filings with, and

submissions to, each Regulatory Authority in the Region with respect to each DT Co-Co Product; (b) interface, correspond, and meet with each Regulatory Authority in the Region with respect to each DT Co-Co Product; and (c) seek and maintain all Regulatory Approvals in the Region with respect to each DT Co-Co Product. In addition, notwithstanding any provision to the contrary set forth in this Agreement, the Regulatory Responsible Party shall (i) not be required to delay any actions, communications, or filings with, or submissions to any Regulatory Authorities in the Region in a manner that affects such Regulatory Responsible Party's ability to comply with any Regulatory Authority requirement or deadline or Applicable Laws in the Territory or that would delay receipt of Regulatory Approval for a DT Co-Co Product in the Territory and (ii) have final say on the content of all Regulatory Filings (including Material Communications) with Regulatory Authorities in the Region.

(c) **CMC Matters**. Notwithstanding anything to the contrary in this Agreement: (i) Moderna shall be solely responsible for all CMC Matters under this Agreement;

(i) Moderna is not required to disclose to Metagenomi or any of its Affiliates any CMC Matters or any information related to the design of mRNA Constructs (including any applicable bioinformatics technology); and (iii) unless authorized in writing by Moderna, Metagenomi or its Affiliates shall not have the right to access, review, use, copy, distribute or retain any Moderna's Confidential Information related to CMC Matters or the design of mRNA Constructs (including any applicable bioinformatics technology). In the event Metagenomi or any of its Affiliates receive any knowledge or information regarding CMC Matters or the design of mRNA Constructs related to this Agreement from a Regulatory Authority or another Third Party, Metagenomi or its Affiliates shall immediately convey such knowledge or information directly to Moderna and promptly and properly delete or destroy all records and documentation regarding any such CMC Matters or mRNA Construct design in its possession, or return them to Moderna, in each case as instructed by Moderna in writing.

(d) **Cooperation and Coordination**. At the Regulatory Responsible Party's request, the other Party shall diligently cooperate with the Regulatory Responsible Party in connection with any Regulatory Filings and other regulatory compliance related activities with respect to the DT Co-Co Products, including harmonization of any Regulatory Documentation and Regulatory Filings.

6.5.2 **Communications with Regulatory Authorities**.

(a) **Prompt Disclosures**. Subject to Section 6.5.1(c) (CMC Matters), each Party shall inform the other Party within [***], or such shorter time as is necessary to comply with the reporting requirements of any applicable Regulatory Authority or under Applicable Laws, of notification of any action by, or notification or other information that it receives (directly or indirectly) from any Regulatory Authority in the Territory to the extent such information: (a) raises any material concerns regarding the safety or efficacy of a DT Co-Co Product; (b) indicates or suggests a potential material liability of either Party to Third Parties in connection with a DT Co-Co Product; (c) is reasonably likely to lead to a clinical hold, recall, market withdrawal, or field alert with respect to a DT Co-Co Product; or (d) relates to expedited and periodic reports of adverse events with respect to a DT Co-Co Product, or DT Co-Co Product complaints, and may have an adverse impact on the receipt or maintenance of Regulatory Approval or the continued

Commercialization of a DT Co-Co Product. The Parties shall reasonably cooperate with and assist each other in complying with regulatory obligations and communications, including by providing to the applicable Regulatory Responsible Party, within two (2) Business Days after a request, such information and documentation that is in the other Party's possession as may be necessary or helpful for such Regulatory Responsible Party to prepare a response to an inquiry from a Regulatory Authority in the Territory with respect to a DT Co-Co Product. Each Party shall also promptly provide the other Party with a copy of all correspondence received from a Regulatory Authority in the Territory specifically regarding the matters referred to above.

(b) **Other Material Communications**. To the extent not provided pursuant to Section 6.5.2(a) (Prompt Disclosures), subject to Section 6.5.1(c) (CMC Matters), and on a Region-by-Region basis, the Regulatory Responsible Party shall provide the JDC for its review and discussion a brief description in English of the principal issues raised in each Material Communication with Regulatory Authorities with respect to any DT Co-Co Product in the Region promptly after receipt thereof, but in any event within fifteen (15) Business Days after receipt thereof. The Regulatory Responsible Party shall allow the other Party a reasonable opportunity to review and comment on the Regulatory Responsible Party's proposed response to any Material Communications with any Regulatory Authority in the Region with respect to any DT Co-Co Product in advance of the transmission of such response, and the Regulatory Responsible Party shall reasonably consider all comments timely provided by the other Party in connection therewith.

(c) **Other Disclosures**. In addition to its obligations under this Agreement, each Party shall promptly disclose to the other Party the following regulatory information, subject to Section 6.5.1(c) (CMC Matters):

(i) **Regulatory Actions**. All material information Controlled by such Party pertaining to actions taken by Regulatory Authorities related to a DT Co-Co Product in the Territory, including any notice, audit notice, notice of initiation by Regulatory Authorities of investigations, inspections, detentions, seizures, or injunctions concerning a DT Co-Co Product in the Territory, notice of violation letter (*i.e.*, an untitled letter), warning letter, service of process, or other inquiry; provided that a Party shall be entitled to redact those portions thereof to the extent not related to a DT Co-Co Product.

(ii) **Regulatory Non-Compliance**. All information Controlled by such Party pertaining to notices from Regulatory Authorities in the Territory of non-compliance with Applicable Laws in connection with a DT Co-Co Product, including receipt of a warning letter or other notice of alleged material non-compliance from any Regulatory Authority relating to a DT Co-Co Product; provided that a Party shall be entitled to redact those portions thereof to the extent not related to a DT Co-Co Product.

6.5.3 **Regulatory Meetings**. The Regulatory Responsible Party shall provide the other Party with reasonable advance notice of all substantive meetings with the Regulatory Authorities in the applicable Region pertaining to the DT Co-Co Product, or with as much advance notice as practicable under the circumstances. Upon the other Party's request, the Regulatory Responsible Party shall include the other Party in the preparation and strategy for such substantive meeting and in any discussions and actions relating to the outcome thereof. Notwithstanding any provision to the contrary set forth in this Section 6.5.3 (Regulatory Meetings), (a) if required by

the applicable Regulatory Authority at any meeting with such Regulatory Authority, then attendance by the other Party shall be permitted; (b) attendance by the representatives of the other Party shall not prevent participation of a representative of the Regulatory Responsible Party for the applicable DT Co-Co Product due to restrictions imposed by Regulatory Authorities on the number of attendees; and (c) the Regulatory Responsible Party for the applicable DT Co-Co Product shall not be obligated to change the schedule of such meeting in order to accommodate the schedule of the other Party's representatives. The non-Regulatory Responsible Party shall strictly follow the applicable Regulatory Responsible Party's instructions with respect to any such meeting that it attends, and shall not discuss the contents of any such meeting with any Third Party or Regulatory Authority except as required by Applicable Laws or authorized by the Regulatory Responsible Party in writing. If either Party requires an interpreter or other translation services in connection with its participation in any such meeting with Regulatory Authorities, then the requiring Party shall be responsible for the costs of such translation services.

6.5.4 **Regulatory Filings**.

(a) **Regulatory Filings**. Subject to Section 6.5.1(c) (CMC Matters), the Regulatory Responsible Party for each Region shall provide the other Party with a copy of all proposed Regulatory Filings to be filed with or submitted to any Regulatory Authority in the Region for the applicable DT Co-Co Product for the other Party's review and comment sufficiently in advance of, but in any event, unless not practicable, at least [***] prior to, the Regulatory Responsible Party's filing or submission thereof, and the Regulatory Responsible Party for the Region shall reasonably consider incorporating any reasonable comments received from the other Party into such Regulatory Filings.

(b) **Other Submissions**. In addition, the Regulatory Responsible Party for each Region shall provide the other Party with written notice of each of the following events with regard to each applicable DT Co-Co Product throughout the Region (to the extent not already provided pursuant to Section 6.5.4(a) (Regulatory Filings)), subject to Section 6.5.1(c) (CMC Matters): within a reasonable period of time, but in any event, unless not practicable, at least [***], following the occurrence thereof (a) the submission of any applications for Regulatory Approval of such DT Co-Co Product to any Regulatory Authority in the Region, and (b) receipt of or denial of Regulatory Approval for such DT Co-Co Product (or inquiries from the applicable Regulatory Authority related to the Regulatory Approval process); provided that the Regulatory Responsible Party shall inform the other Party of any such event under (a) or (b) prior to public disclosure of such event by the other Party.

(c) **CMC Filings**. Notwithstanding anything to the contrary in this Section 6.5 (Regulatory Affairs), Moderna shall be responsible for all CMC-related components of all Regulatory Filings for the DT Co-Co Products in the Territory. If not previously prepared and filed, Moderna will, at Metagenomi's written request, prepare and file with the FDA a DMF containing required CMC information for DT Co-Co Products in the U.S. Metagenomi and its Affiliates may refer to such DMF in any Regulatory Filing made in connection with obtaining or maintaining a Regulatory Approval for applicable DT Co-Co Product in the U.S. [***].

6.5.5 **Costs of Regulatory Affairs**. [***].

6.5.6 **Right of Reference**. Subject to the rules of the relevant Regulatory Authority and the terms of this Agreement, each Party hereby grants to the other Party a "Right of Reference," as that term is defined in 21 C.F.R. § 314.3(b) (or any successor rule or analogous Applicable Laws recognized outside of the U.S.) to, and a right to copy, access, and otherwise use, all information and data relating to the DT Co-Co Products in any Regulatory Filings or Regulatory Approval Controlled by such Party during the Term, solely for the other Party's or its Affiliates' use in the Development and Commercialization of the DT Co-Co Products in their respective Region during the Term in accordance with this Agreement. All such information and data contained in any such Regulatory Filings or Regulatory Approvals shall be considered Confidential Information of such Party and subject to the terms of Article 11 (Confidentiality). If requested by the other Party, such Party shall provide a signed statement to this effect in accordance with 21 C.F.R. § 314.50(g)(3) (or any successor rule or analogous Applicable Laws outside of the U.S.) to give effect to the intent of this Section 6.5.6 (Right of Reference).

6.5.7 **Pharmacovigilance and Adverse Event Reporting**. The Parties shall cooperate with regard to the reporting and handling of safety information involving the DT Co-Co Products in accordance with the Applicable Laws, regulatory requirements, and regulations on pharmacovigilance and clinical safety. The Regulatory Responsible Party for a DT Co-Co Product in a given Region shall be responsible for all processing of information related to any adverse events for such DT Co-Co Product for the Region. Each Party shall provide to the other Party the relevant safety information it receives (either directly or indirectly) related to a DT Co-Co Product within such time to ensure that all regulatory requirements and timelines are met in the respective territories. The Parties shall negotiate in good faith and enter into a Pharmacovigilance Agreement, which shall define the pharmacovigilance responsibilities of the Parties and include safety data exchange procedures governing the exchange of information affecting the DT Co-Co Products (*e.g.*, Serious Adverse Events, emerging safety issues) to enable each Party to comply with all of its legal and regulatory obligations related to such DT Co-Co Products (the "**Pharmacovigilance Agreement**"). Moderna shall own and maintain the global safety database for all DT Co-Co Products provided that the Pharmacovigilance Agreement shall provide Metagenomi access to such database and real time notifications and reporting of adverse events, as needed for pharmacovigilance obligations.

6.5.8 **Recalls, Withdrawal, or Field Alert of a DT Co-Co Product**.

(a) **Notification and Determination**. In the event that any Governmental Authority threatens in writing or initiates any action to remove a DT Co-Co Product from the market (in whole or in part) in the Territory, the Party receiving notice thereof shall notify the other Party of such communication immediately, but in no event later than two Business Days after receipt thereof. Notwithstanding the foregoing, in all cases the Regulatory Responsible Party for a DT Co-Co Product in a Region shall determine whether to initiate any recall, withdrawal, or field alert of such DT Co-Co Product in the applicable Region, including the scope of such recall or withdrawal (*e.g.*, a full or partial recall, or a temporary or permanent recall) or field alert. Before the Regulatory Responsible Party initiates a recall, withdrawal, or field alert for a DT Co-Co Product in a Region, as applicable, the Parties shall use reasonable efforts to promptly meet and discuss in good faith the reasons therefor, provided that such discussions shall not delay any action that such Regulatory Responsible Party reasonably believes should be taken in relation to any actual or potential recall, withdrawal, or field alert. In the event of any such recall, withdrawal, or

field alert, the Regulatory Responsible Party for the applicable Region shall determine the necessary actions to be taken and shall implement such action. Without limiting the foregoing, either Party shall have the right to propose that a recall, withdrawal, or field alert for a DT Co-Co Product should be initiated by such Party, but the Regulatory Responsible Party for the applicable Region shall have the right to make the final decision as to whether or not to initiate the recall, withdrawal, or field alert. Notwithstanding the foregoing, if a recall, withdrawal, or field alert is reasonably necessary due to a Manufacturing issue related to a DT Co-Co Product, Moderna shall promptly notify Metagenomi of such issue and provide relevant information on such Manufacturing issue. Upon written request by Moderna for such recall, withdrawal, or field alert, such request to include the scope of the recall or withdrawal, as applicable, Metagenomi (if Metagenomi is the Regulatory Responsible Party for the applicable Region), shall initiate such recall, withdrawal, or field alert in accordance with Moderna's request.

(b) **Cost Allocation**. [***].

6.6 **Medical Affairs**.

6.6.1 **Medical Affairs Plans**. No later than [***] before the submission of the first Regulatory Filing seeking the first Regulatory Approval for a DT Co-Co Product, the Medical Affairs Working Group shall prepare and submit to the JDC a Medical Affairs Plan for such DT Co-Co Product in the Territory for the following [***], including the corresponding Medical Affairs Budget. The Medical Affairs Plan shall contain a [***] rolling annual plan for the Medical Affairs activities for the DT Co-Co Product in the Territory. Subject to comments and proposed changes by the other Party, each Party will be responsible for the Medical Affairs Plan for its respective Region. The Medical Affairs Plans for each Region will be incorporated into the overall Medical Affairs Plan. The JDC shall prepare, review, discuss and determine whether to present each Medical Affairs Plan and Medical Affairs Budget, including the allocation of activities between the Parties set forth therein, to the JSC for approval. On an annual basis during the Term (or more frequently as may be required), the JDC shall review and update, or have a Party review and update, each Medical Affairs Plan and Medical Affairs Budget based on the currently available information and data, including for any applicable new formulations or Indications that that were added to a Development Plan pursuant to Section 6.4.7(b) (JDC and JSC Decision Regarding New Development Activities) or new Combination Products approved by the JSC in accordance with Section 6.4.8 (Combination Products), in each case, that are not included in the then-current Medical Affairs Plan for the applicable DT Co-Co Product. The JDC shall review and discuss and determine whether to present any such update to the Medical Affairs Plans and Medical Affairs Budgets to the JSC for approval. Each such update to a Medical Affairs Plan and corresponding Medical Affairs Budget shall become effective and shall supersede the previous Medical Affairs Plan and corresponding Medical Affairs Budget upon approval thereof by the JSC.

6.6.2 **Performance of Medical Affairs**. The Lead Party shall lead the performance of Medical Affairs activities in its respective Region for each DT Co-Co Product, and, without seeking JDC review or approval, shall have the right to make operational decisions with respect to the performance of such Medical Affairs activities to the extent consistent with the then-current Medical Affairs Plan provided that Moderna may appoint up to [***] of all medical science liaisons for the U.S. Notwithstanding anything to the contrary herein, the Parties may elect to conduct Medical Affairs activities jointly and allocate specific operational activities in

accordance with the Medical Affairs Plan. If a particular Medical Affairs activity is allocated to both Parties to perform jointly under a Medical Affairs Plan, then both Parties shall conduct such activity in collaboration with each other as directed by the JDC. Each Party shall use reasonable efforts in the Territory to cobrand all sponsorships, booths, and similar activities in accordance with branding terms set forth in the applicable Commercialization Plan and to the extent the same are solely related to the DT Co-Co Products and such cobranding is permitted under Applicable Laws.

6.6.3 **Medical Affairs Costs**. [***].

6.6.4 **Assumed Medical Affairs Activities**. If either Party has defaulted on its obligations to perform one or more Medical Affairs activities allocated to such Party under a Medical Affairs Plan in a manner that delays the performance of such matters for a period of more than [***] beyond the timeline set forth in such Medical Affairs Plan, then the other Party shall provide such defaulting Party with written notice regarding such failure to perform, and upon receipt of such notice the defaulting Party shall have a [***] period to commence the performance of such Medical Affairs activities in accordance with the terms hereof and the applicable Medical Affairs Plan (the "**Medical Affairs Activities Cure Period**"). If (i) the defaulting Party has not commenced performance of such Medical Affairs activities during the applicable Medical Affairs Activities Cure Period, (ii) the defaulting Party notifies the non-defaulting Party in writing that the defaulting Party anticipates that it shall be unable to perform such Medical Affairs activities, or (iii) the defaulting Party does not perform such Medical Affairs activities in accordance with the applicable Medical Affairs Plan or otherwise in accordance with this Section 6.6 (Medical Affairs), within a reasonable period of time in accordance with the terms hereof, then, in each case ((i)-(iii)), the non-defaulting Party may, upon written notice to the defaulting Party, assume those Medical Affairs activities that are the subject of such default by the defaulting Party (the "**Assumed Medical Affairs Activities**"). In connection with the defaulting Party's failure to perform such activities or default of such obligations and the non-defaulting Party's assumption thereof:

(a) the defaulting Party shall work collaboratively and in good faith with the non-defaulting Party, and make its personnel reasonably available to the non-defaulting Party, in each case, in order to (i) transfer of any applicable technology, materials, or contracts with subcontractors to the other Party that are necessary or reasonably useful for the performance of the applicable Assumed Medical Affairs Activities, and (ii) provide such other assistance so as to enable the non-defaulting Party to assume performance of the applicable Assumed Medical Affairs Activities;

(b) the non-defaulting Party shall thereafter have the right to make operational decisions with respect to the performance of such Assumed Medical Affairs Activities to the extent consistent with the then-current Medical Affairs Plan;

(c) the JDC shall update the applicable Medical Affairs Plan to allocate performance of the Assumed Medical Affairs Activities to the non-defaulting Party; and

(d) for the avoidance of doubt, Eligible Medical Affairs Costs incurred in connection with the performance of Assumed Medical Affairs Activities shall [***].

6.6.5 **Medical Affairs Updates**. At each meeting of the JDC, each Party shall provide to the applicable JDC a summary of the Medical Affairs activities performed by such Party for the DT Co-Co Products in the Territory during the period since the last JDC meeting.

6.6.6 **Standards of Conduct; Compliance**. Each Party shall perform, or shall ensure that each of its Affiliates, sublicensees, and subcontractors perform, all Medical Affairs activities in a professional and ethical business manner and in compliance with Applicable Laws, the Approved Labeling, and any applicable Medical Affairs Plan.

6.7 **Commercialization**.

6.7.1 **Commercialization Plan**. No later than [***] prior to the anticipated First Commercial Sale of a DT Co-Co Product in the Territory, Moderna and Metagenomi shall prepare and submit to the JCC, an initial Commercialization Plan for such DT Co-Co Product, which will set forth a reasonably detailed description of anticipated Commercialization activities for the applicable DT Co-Co Products in the Territory, including the corresponding Commercialization Budget. The Commercialization Plan shall also contain a [***] rolling annual plan for the global Commercialization activities for the DT Co-Co Product in the Territory and the Commercialization Budget shall include a [***] financial forecast reflecting reasonably anticipated Commercialization Costs in accordance with the Commercialization Plan. Subject to comments and proposed changes by the other Party, each Party will be responsible for the Commercialization Plan for its respective Region. The Commercialization Plans for each Region will be incorporated into the overall Commercialization Plan. The Commercialization Plan may discuss certain matters on an Indication-by-Indication basis and shall address (to the extent applicable given the stage of Commercialization and estimated anticipated First Commercial Sale) (a) the Product Marks, global usage guidelines for the Product Marks, global key positioning, and messaging strategy for such DT Co-Co Product in such Indication, and guidelines for the Product Materials prepared in accordance with Section 6.7.9 (Product Materials) and (b) the general pricing and market access strategy (including discounts, rebates and other price reductions) globally and for each DT Co-Co Product for such Indication in each country in the Territory. The JCC shall prepare, review, and discuss, and the JSC shall review, discuss, and determine whether to approve, each Commercialization Plan for a DT Co-Co Product. Moderna shall have the sole right to select the Product Marks for each DT Co-Co Product to be used in Moderna's Region and included in the applicable Commercialization Plan and may decide to develop and adopt certain distinctive colors, logos, images, symbols, and trade dress to be used (in addition to the Product Marks) in connection with the Commercialization of each DT Co-Co Product in Moderna's Region. The Parties shall jointly select the Product Marks for each DT Co-Co Product to be used in Metagenomi's Region and included in the applicable Commercialization Plan and may jointly decide to develop and adopt certain distinctive colors, logos, images, symbols, and trade dress to be used (in addition to the Product Marks) in connection with the Commercialization of each DT Co-Co Product in Metagenomi's Region. The JCC shall prepare, review, and discuss, and the JSC shall review, discuss, and determine whether to approve, each Commercialization Plan and Commercialization Budget. On an annual basis during the Term (or more frequently as may be required), the JCC shall review and update each Commercialization Plan and Commercialization Budget based on the currently available information and data, including for any applicable new formulations or Indications that that were added to a Development Plan pursuant to Section 6.4.7(b) (JDC and JSC Decision Regarding New Development Activities) or new Combination Products approved by the

JSC in accordance with Section 6.4.8 (Combination Products), in each case, that are not included in the then-current Commercialization Plan for the applicable DT Co-Co Product. The JSC shall review, discuss, and determine whether to approve any such update to the applicable Commercialization Plan and corresponding Commercialization Budget. Each such update to a Commercialization Plan and corresponding Commercialization Budget shall become effective and shall supersede the previous Commercialization Plan and corresponding Commercialization Budget upon approval thereof by the JSC.

6.7.2 **Commercialization Activities**. The Parties shall Commercialize the DT Co-Co Products in the Territory in accordance with the Commercialization Plan for each DT Co-Co Product. The Lead Party shall lead the performance of Commercialization activities in its respective Region, and, without seeking JCC review or approval, shall have the right to make operational decisions with respect to the performance of such Commercialization activities to the extent consistent with the then-current Commercialization Plan provided that Moderna may appoint up to fifty percent (50%) of the deployed Sales Force for the U.S. Notwithstanding anything to the contrary herein, the Parties may elect to conduct Commercialization activities jointly and allocate specific operational activities in accordance with the Commercialization Plan. Without limiting the generality of the foregoing, in connection with the Commercialization of the DT Co-Co Products in its respective Region, The Lead Party shall be solely responsible for (a) receiving, accepting, and filling orders for the DT Co-Co Products, (b) handling all returns of the DT Co-Co Products, (c) controlling invoicing, order processing, and collection of accounts receivable for the sales of the DT Co-Co Products, (d) booking and recording sales of the DT Co-Co Products in its books of account, and (e) distributing and managing inventory of the DT Co-Co Products. If a particular Commercialization activity is allocated to both Parties to perform jointly under a Commercialization Plan, then both Parties shall coordinate to jointly conduct such activity in collaboration with each other.

6.7.3 **Commercialization Costs and Expenses**. [***].

6.7.4 **Assumed Commercialization Activities**. If either Party has defaulted on its obligations to perform one or more Commercialization activities allocated to such Party under a Commercialization Plan in a manner that delays the performance of such matters for a period of more than [***] beyond the timeline set forth in such Commercialization Plan, then the other Party shall provide such defaulting Party with written notice regarding such failure to perform, and upon receipt of such notice the defaulting Party shall have a [***] period to commence the performance of such Development activities in accordance with the terms hereof and the applicable Commercialization Plan (the "**Commercialization Activities Cure Period**"). If (a) the defaulting Party has not commenced performance of such Commercialization activities during the applicable Commercialization Activities Cure Period, (b) the defaulting Party notifies the non-defaulting Party in writing that the defaulting Party anticipates that it shall be unable to perform such Commercialization activities, or (c) the defaulting Party does not perform such Commercialization activities in accordance with the applicable Commercialization Plan or otherwise in accordance with this Section 6.7 (Commercialization), within a reasonable period of time in accordance with the terms hereof, then, in each case ((a)-(c)), the non-defaulting Party may, upon written notice to the defaulting Party, assume those Commercialization activities that are the subject of such default by the defaulting Party (the "**Assumed Commercialization Activities**"). In connection with the defaulting Party's failure to perform such activities or default of such obligations and the non-defaulting Party's assumption thereof:

(a) the defaulting Party shall work collaboratively and in good faith with the non-defaulting Party, and make its personnel reasonably available to the non-defaulting Party, in each case, in order to (i) transfer of any applicable technology, materials, or contracts with subcontractors to the other Party that are necessary or reasonably useful for the performance of the applicable Assumed Commercialization Activities and (ii) provide such other assistance so as to enable the non-defaulting Party to assume performance of the applicable Assumed Commercialization Activities;

(b) the non-defaulting Party shall thereafter have the right to make operational decisions with respect to the performance of such Assumed Commercialization Activities to the extent consistent with the then-current Commercialization Plan;

(c) the applicable JSC subcommittee shall update the applicable Commercialization Plan to allocate performance of the Assumed Commercialization Activities to the non-defaulting Party; and

(d) [***].

6.7.5 **Pricing Matters; Pricing and Reimbursement Approvals; Information Sharing; Pricing Strategy**.

(a) Moderna shall be responsible for preparing the overall pricing strategy for the Territory, including establishing various pricing bands for each country in the Territory, which is to be included in the Commercialization Plan subject to JCC review and JSC approval. Metagenomi shall have the right to comment, which Moderna shall consider in good faith in Moderna's proposed pricing strategy. The Regulatory Responsible Party will be responsible for all Pricing Matters in its respective Region within the guidelines, such as pricing bands, set by the overall pricing strategy;

(b) The Regulatory Responsible Party shall be solely responsible for negotiating, obtaining, and maintaining all Pricing and Reimbursement Approvals for the DT CoCo Products in any country or regulatory jurisdiction in its respective Region where required in its own name or in the name of its Affiliate, subject to JSC approval; and

(c) Upon either Party's reasonable request, but subject to local anticompetition laws and any obligations of confidentiality between a Party and any Third Party, the Parties, through the JCC, shall discuss key market research and relevant sections of DT Co-Co Product national reimbursement dossiers (or their equivalent) in the Territory, as well as other relevant Commercialization information regarding the Territory collected or prepared by or on behalf of such Party relating to each DT Co-Co Product that such Party agrees to share with the JCC for discussion.

6.7.6 **Commercialization Reports**. At each meeting of the JCC, each Party shall provide to the JCC a summary of the Commercialization activities performed by such Party for the DT Co-Co Products in the Territory, during the period since the last JCC meeting. In addition, at each meeting of the JCC following the First Commercial Sale of a DT Co-Co Product in a country in a Region, the respective Lead Party shall present sales forecasts, sales performance reports, and other information for such DT Co-Co Product in such country in the Region.

6.7.7 **Commercialization Diligence Obligations**. Following receipt of Regulatory Approval of a DT Co-Co Product in a country within the Territory each Party shall use Commercially Reasonable Efforts to perform, or cause to be performed, the activities for such DT Co-Co Product assigned to it in the applicable Commercialization Plan.

6.7.8 **Standards of Conduct; Compliance**. Each Party shall perform, or shall ensure that each of its Affiliates, sublicensees, and subcontractors perform, all Commercialization activities in a professional and ethical business manner and in compliance with Applicable Laws, the Approved Labeling, and any applicable Commercialization Plan.

6.7.9 **Product Materials**.

(a) **Creation; Ownership; Use**. Unless otherwise agreed by the Parties or as otherwise set forth in the Commercialization Plan, the Lead Party shall create and develop all Product Materials in accordance with the Approved Labeling, applicable Regulatory Approvals, and Applicable Laws for all countries in its respective Region and submit such Product Materials to the JCC for review, discussion, and approval. The Lead Party shall own all rights, title, and interests in and to any Product Materials for the DT Co-Co Products for its respective Region, excluding any Moderna Housemarks or Metagenomi Housemarks as may be.

(b) **Co-Branding of Product Materials**. [***].

6.7.10 **Product Marks**.

(a) **Ownership; Trademark License**. [***] inures to the benefit of Moderna, regardless of which Party uses Moderna Housemarks in which Region, and (ii) Metagenomi reserves all rights, title or interests in and to Metagenomi Housemarks, and all goodwill developed by virtue of the use of Metagenomi Housemarks inures to the benefit of Metagenomi, regardless of which Party uses Metagenomi Housemarks in which Region. Upon a Party's reasonable request from time to time, the other Party shall provide to such Party for its review all materials that include any Product Marks, provided that all subsequent uses of any materials already provided to such Party for review may be used without additional review.

(b) **Use**. Each Party agrees that it and its Affiliates and Sublicensees shall Commercialize each of the DT Co-Co Products in the Territory in a manner consistent with the Commercialization Plan and shall ensure that all DT Co-Co Products that are sold bearing the Product Marks are of a high quality consistent with industry standards for global pharmaceutical and biologic therapeutic products. Metagenomi agrees that it and its Affiliates and Sublicensees shall (a) not use any Product Marks in a way that might materially prejudice their distinctiveness or validity or the goodwill of Moderna therein and shall include the trademark registration symbol ® or ™ as appropriate; (b) ensure that each use of the Product Marks is in accordance with the guidelines with respect to manner of use set forth in the Commercialization Plan; (c) not directly or indirectly, attack, dispute, or contest the validity of or ownership of such Product Marks anywhere in the Territory or any registrations issued or issuing with respect thereto; (d) not use any trademarks or trade names so resembling any of such Product Marks as to be likely to cause confusion or deception; and (e) place and display the Product Marks on and in connection with the DT Co-Co Products in a way that acknowledges Moderna's role in discovering the DT Co-Co Products and that such DT Co-Co Product is under license from Moderna.

(c) **Required Use**. On a DT Co-Co Product-by-DT Co-Co Product basis, Metagenomi shall promote and sell such DT Co-Co Products in the U.S. only under the applicable Product Marks for such DT Co-Co Products as set forth herein and in the applicable Medical Affairs Plan, Commercialization Plan, and if a sublicensee is approved pursuant to Section 5.7.1 (Rights to Grant Licenses and Sublicenses in the Territory) then such sublicensee's trademarks, and no other Trademarks.

(d) **Registration, Maintenance, and Enforcement**. [***].

6.7.11 **Patent Marking**. [***].

6.7.12 **Copyright License**. [***].

6.8 **Opt-Out Right**.

6.8.1 **Opt-Out Right**. With respect to the DT Co-Co Program, (a) Metagenomi may, at any time during the Term of the DT Co-Co Program, and (b) Moderna may, at any time during the Term of the DT Co-Co Program (in the case of (a), Metagenomi shall be the "**Opt-Out Party**" and in the case of (b), Moderna shall be the "**Opt-Out Party**"), elect to opt-out of its obligations under such DT Co-Co Program (the "**Opt-Out DT Co-Co Program**") (in the case of Moderna being the Opt-Out Party, subject to Section 6.8.2(e) (Effects of Opt-Out)), and the other Party (the "**Primary Party**") shall have the right to continue the Development and Commercialization activities in the Opt-Out DT Co-Co Program in the Territory ("**Opt-Out**," and such right to Opt-Out, the "**Opt-Out Right**"). Metagenomi may exercise its Opt-Out Right by providing written notice to Moderna of such election at any time during the Term of the DT Co-Co Program, and Moderna may exercise its Opt-Out Right by providing written notice to Metagenomi of such election at any time during the Term of the DT Co-Co Program. Any exercise by either Party of its Opt-Out Right in accordance with the foregoing sentence shall become effective [***] after the delivery of the written notice (the "**Opt-Out Date**").

6.8.2 **Effects of Opt-Out**.

[***]

6.8.3 **Right of First Offer After Opt-Out**.

[***]

6.9 **Preservation of Program Assets**. On a Program-by-Program basis, except as otherwise permitted under this Agreement, during the Term of such Program, Metagenomi (i) shall not and shall ensure that its Affiliates do not, (a) assign, transfer, convey or dispose of, or enter into any agreement with any Affiliate or Third Party to assign, transfer, convey or dispose of (or agree to do any of the foregoing), the Collaboration Targets, any Candidates or Products, or any

of the Metagenomi Licensed Collaboration Technology, including its interest in any Program Technology, in each case in connection with such Program (the "**Metagenomi Program Assets**"), or (b) license, option or grant to any Affiliate or Third Party, or agree to license, option or grant to a Third Party, any rights to or otherwise encumber any Metagenomi Program Assets, in each case ((a)-(b)) that would impair or conflict in any respect with any of the rights or licenses granted or to be granted to Moderna hereunder, (ii) shall, under Article 5 (Licenses; Exclusivity; Manufacture), transfer or otherwise provide the most advanced version of the Metagenomi Licensed Collaboration Technology to Moderna or the JSC, as applicable, and (iii) shall include such most advanced version of the Metagenomi Licensed Collaboration Technology in the applicable Program Plan. Without limiting the generality of the foregoing, until the end of the Research Term, Metagenomi will not spin-off or agree to spin-off (by any means) any Patents or Know-How relevant to the licenses granted by Metagenomi hereunder into any Affiliate of Metagenomi (at the time of such spin) without ensuring that any newly invented Patents or Know-How arising (directly or indirectly) from the practice of any such spun Patents or Know-How (or improvements thereto) remain "Controlled" by Metagenomi under this Agreement. For clarity, Metagenomi's obligations under this Section 6.9 (Preservation of Program Assets) shall continue to apply in the event Metagenomi exercises its Opt-Out Right under Section 6.8 (Opt-Out Right). With respect to each DT Co-Co Program, except as otherwise permitted under this Agreement, during the Term of such DT Co-Co Program, Moderna shall not and shall ensure that its Affiliates do not, (A) assign, transfer, convey or dispose of, or enter into any agreement with any Affiliate or Third Party to assign, transfer, convey or dispose of (or agree to do any of the foregoing), the DT Co-Co Target, any Candidates or Products, or any of the Moderna Licensed DT Co-Co Technology, including its interest in any Program Technology, in each case in connection with such Program (the "**Moderna Program Assets**"), or (B) license, option or grant to any Affiliate or Third Party, or agree to license, option or grant to a Third Party, any rights to or otherwise encumber any Moderna Program Assets, in each case ((A)-(B)) that would impair or conflict in any respect with any of the rights or licenses granted or to be granted to Metagenomi in such DT Co-Co Program. For clarity, Moderna's obligations under this Section 6.9 (Preservation of Program Assets) shall continue to apply in the event Moderna exercises its Opt-Out Right under Section 6.8 (Opt-Out Right).

6.10 **Safety Concern**. Notwithstanding anything to the contrary herein or in the applicable DT Co-Co Plan for a given DT Co-Co Program, if, at any time during or after the Term of such DT Co-Co Program, Moderna reasonably believes that there is a Safety Concern with respect to a Product in such DT Co-Co Program, then Moderna will immediately (and in any event within five (5) Business Days after the date it determines there is a Safety Concern) provide written notice to Metagenomi of such Safety Concern, following which neither Party may conduct any further Development or Commercialization activities with respect to the Product that gave rise to the Safety Concern until such Safety Concern is resolved; provided that if the Parties do not mutually agree how to resolve such Safety Concern within a [***] period, then Moderna shall have the right to determine whether there will be any further Development or Commercialization activities with respect to such Product, and the extent of those activities, including the right to cease or suspend or cause the cessation or suspension of the conduct of any ongoing or future Clinical Trials of the Product, and in the event Moderna determines that there will be no further Development or Commercialization activities with respect to the DT Co-Co Product in such DT Co-Co Program, the DT Co-Co Program shall terminate with respect to such DT Co-Co Product to the extent it has not already expired or been terminated otherwise, and the Parties shall cooperate with each other to wind-down their respective existing activities with respect to such Product.

Article 7
FEES, ROYALTIES, & PAYMENTS

7.1 **Upfront Payment**. As partial consideration for the rights granted by Metagenomi to Moderna pursuant to the terms of this Agreement, within [***] of the Effective Date, Moderna shall pay to Metagenomi (i) a non-refundable, non-creditable, unencumbered cash payment equal to forty million Dollars ($40,000,000) (the "**Upfront Payment**") and (ii) the first payment of the Annual Research Funding Amount as described in Section 7.3 (Research Funding), provided that, promptly (and in no event later than [***]) after the Effective Date, Metagenomi provides Moderna with a properly completed and signed IRS Form W-9 and an invoice for each of items (i) and (ii).

7.2 **Convertible Note**. Pursuant to those convertible note financing agreements (collectively, "**Convertible Note Instruments**") entered into by the Parties dated as of even date herewith, and in accordance with the terms and conditions set forth therein, Moderna shall purchase convertible notes from Metagenomi in the amount of thirty million Dollars ($30,000,000) in principal converting to equity at the next Qualified Financing, as defined in the Convertible Note Instruments, on the terms and conditions set forth therein. The Convertible Note Instruments shall further provide that Moderna shall have the right to designate one (1) observer to Metagenomi's Board of Directors.

7.3 **Research Funding**.

7.3.1 As additional consideration for the rights and license granted herein, Moderna shall pay Metagenomi an amount of five million Dollars ($5,000,000) within [***] after the Effective Date and at least five million Dollars ($5,000,000) within [***] after each anniversary of the Effective Date (each, the "**Annual Research Funding Amount**"), for Metagenomi's Research Costs under the RT Technology Research Plan, the RT Preclinical Research Plans, the DT Target Evaluation Plan and the DT Moderna Research Plans. Notwithstanding the above or anything else herein to the contrary, should the Annual Research Funding Amount for a specific year after the Effective Date not be fully consumed by Metagenomi's Research Costs incurred under the RT Technology Research Plan, the RT Preclinical Research Plans, the DT Target Evaluation Plan and the DT Moderna Research Plans during such year, Metagenomi shall promptly notify Moderna of same after the applicable anniversary of the Effective Date, and Moderna may credit its own DT Co-Co Research Costs under the DT Co-Co Research Plans for such year against any remainder of the Annual Research Funding Amount for such year. Any remaining DT Co-Co Research Costs thereafter shall be subject to sharing with Metagenomi pursuant to 6.4.4 (Development Cost Sharing).

7.3.2 **Research Funding Audit**. In accordance with Section 7.6 (Accounting; Audit), Moderna may audit any invoices and expense reports provided by Metagenomi under Section 3.5 (RT Research Term Costs) and Section 4.6 (DT Moderna Research Term Costs).

7.4 **Co-Co Products Profit and Loss Share**. Subject to Sections 6.8 (Opt-Out Right), Moderna and Metagenomi shall share in Operating Profits or Losses with respect to Commercialization activities, Medical Affairs activities, the activities set forth under Other Operating Expenses and other related activities for the DT Co-Co Products in the Territory as follows: Each Party shall bear (and be entitled to) fifty percent (50%) of such Operating Profits or Losses (the "**Profit and Loss Share**"). **Schedule J** (Co-Co Products Profit and Loss Share) sets forth the procedures for reporting of actual results for each Calendar Quarter and review and discussion of potential discrepancies, reconciliation, reasonable forecasting, and other finance and accounting matters, and to the extent such matters are not set forth in **Schedule J** (Co-Co Products Profit and Loss Share), the JSC shall determine such matters.

7.5 **Apportionment of Costs**. If any Commercialization Costs, Development Costs, External Costs, Medical Affairs Costs, Cost of Sales, or Other Operating Expenses benefit both (a) a DT Co-Co Product in the Territory, and (b) any other product or activities of a Party outside of this Agreement, then the applicable Party incurring such costs shall apportion such costs in a manner that fairly and reasonably reflects the benefit to the DT Co-Co Product in the Territory and the other products or activities of such Party outside of this Agreement, as applicable. Each Party shall keep records of the total costs incurred and the apportionment pursuant to the records required under Section 7.6 (Accounting; Audit). At the request of the other Party, the Party making the apportionment shall provide reasonable additional supporting documentation and make its personnel reasonably available to answer any questions, and if the other Party disputes the apportionment, then the JSC shall review, discuss, and determine what percentage of the total costs in question can be included as Commercialization Costs, Eligible Development Costs, Cost of Sales, Eligible Medical Affairs Costs, or Other Operating Expenses, as applicable.

7.6 **Accounting; Audit**. Each Party agrees to keep full, clear, and accurate records in accordance with U.S. GAAP, consistently applied, for a period of at least [***] after the relevant payment is owed pursuant to this Agreement, setting forth Research Costs (including Eligible Co-Co Research Costs, RT Excess Costs, DT Moderna Excess Costs), Development Costs (including Eligible Development Costs), Medical Affairs Costs (including Eligible Medical Affairs Costs) Manufacturing Costs, Commercialization Costs, Other Operating Expenses, royalties, sales of the Products, and other amounts payable to the other Party hereunder in sufficient detail to enable amounts owed or payable to the other Party hereunder to be determined. Each Party further agrees to permit its books and records to be examined by an independent accounting firm selected by the other Party and reasonably acceptable to the audited Party to verify the accuracy of any of the foregoing; provided that such independent accounting firm is subject to written obligations of confidentiality and non-use applicable to each Party's Confidential Information that are at least as stringent as those set forth described in Article 11 (Confidentiality). Such audit shall not be (a) performed more frequently than [***], (b) conducted for any Calendar Year more than [***] after the end of such year, or (c) repeated for any Calendar Year or with respect to the same set of records (unless a discrepancy with respect to such records is discovered during a prior audit). Such examination is to be made at the expense of the auditing Party, except in the event that the results of the audit reveal an underpayment or overcharge by the audited Party of [***] or more during the period being audited, in which case reasonable audit fees for such examination shall be paid by the audited Party. The underpaid Party shall be entitled to recover any shortfall in payments as determined by such audit, plus interest thereon, calculated in accordance with Section 7.15 (Default Interest). If such examination of records reveals any overpayment by a Party, then the other Party shall credit the amount overpaid against future amounts due to the other Party by the overpaying Party.

7.7 **Disputed Payments**. If a Party disputes an invoice or other payment obligation under this Agreement, then such Party shall timely pay the undisputed amount of the invoice or other payment obligation, and the Parties shall resolve such dispute in accordance with Section 13.4 (Baseball Arbitration).

7.8 **Milestone Payments**.

7.8.1 **General**. Moderna shall pay to Metagenomi certain milestone payments ("**Milestone Payments**") set forth in this Section 7.8 (Milestone Payments): within [***] following the receipt of an invoice from Metagenomi for the applicable Milestone Payment in respect of (i) the first achievement of an RT Technology Milestone during the RT Research Term or Base Editing Correction Readiness during the Initial RT Research Term or Base Editing Knockout Readiness during the DT Moderna Research Term, pursuant to Section 7.8.2 (Technology Milestone Fees), (ii) the first Product for each RT Preclinical Research Program achieving an RT Target development and regulatory milestone event set forth in Section 7.8.3 (RT Target Development Milestones) (the "**RT Target Development and Regulatory Milestone Event**"), (iii) the first Product for each DT Moderna Target achieving a DT Moderna Target development and regulatory milestone event set forth in Section 7.8.5 (DT Target Development Milestones) (the "**DT Moderna Target Development and Regulatory Milestone Event**"), (iv) the first occurrence of all Products Directed Against a given RT Target collectively achieving the sales milestone events set forth in Section 7.8.4 (RT Target Sales Milestones) (the "**RT Target Sales Milestone Events**"), and (v) the first occurrence of all Products Directed Against a given DT Moderna Target collectively achieving the sales milestone events set forth in Section 7.8.6 (DT Moderna Target Sales Milestones) (the "**DT Moderna Target Sales Milestone Events**"). For clarity, the maximum number of each RT Target Development and Regulatory Milestone Event achievable is ten (10) (i.e., only once per each RT Target subject to this Agreement), and the maximum number of each DT Moderna Target Development and Regulatory Milestone Event achievable is two (2) (i.e., only once per each DT Moderna Target subject to this Agreement). Each Milestone Payment made under this Section 7.8 (Milestone Payments) shall be non- refundable, non-creditable and not subject to set-off hereunder. Notwithstanding anything else herein to the contrary, any pharmaceutical product (A) Developed with the intent to be Commercialized as a single-priced pharmaceutical product, (B) Commercialized as a single-priced pharmaceutical product, in each case of (A) and (B), by or on behalf of Moderna or any of its Affiliates or Sublicensees, which comprises two or more Licensed RT Products, each Directed Against a different RT Target, shall be deemed one Licensed RT Product Directed Against only one RT Target, for purposes of this Section 7.8 (Milestone Payments), and any pharmaceutical product, (C) Developed with the intent to be Commercialized as a single-priced pharmaceutical product, or (D) Commercialized as a single-priced pharmaceutical product, in each case of (C) and (D), by or on behalf of Moderna or any of its Affiliates or Sublicensees, which comprises two or more Licensed DT Products, each Directed Against a different DT Moderna Target, shall be deemed one Licensed DT Product Directed Against only one DT Moderna Target, for purposes of this Section 7.8 (Milestone Payments).

7.8.2 **Technology Milestone Fees**. The Milestone Payments to be made by Moderna to Metagenomi pursuant to Section 7.8.1 (Milestone Payments, General) with respect to first achieving an RT Technology Milestone described below during the RT Research Term, or Base Editing Correction Readiness described below during the Initial RT Research Term, or Base Editing Knockout Readiness described below during the DT Moderna Research Term are as follows:

Technology Milestone Event Achieved During the RT Research Term, the Initial RT Research Term or the DT Moderna Research Term, each as applicable	**Maximum Total Payment**	**Milestone Payment**
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]

The maximum total amount payable under this Section 7.8.2 (Technology Milestone Fees) shall not exceed seventy-five million Dollars ($75,000,000). Metagenomi shall provide prompt written notice to the JSC upon achievement of an RT Technology Milestone during the RT Research Term, upon achievement of Base Editing Knockout Readiness during the DT Moderna Research Term, and upon achievement of Base Editing Correction Readiness during the Initial RT Research Term, in each case together with sufficient data and other information for the JSC to confirm such achievement. The JSC shall notify Metagenomi and Moderna of its confirmation within [***] after receiving the written notice from Metagenomi. Metagenomi shall send an invoice for the applicable Milestone Payment within [***] after receiving the confirmation from the JSC.

7.8.3 **RT Target Development Milestones**. The Milestone Payments to be made by Moderna to Metagenomi pursuant to Section 7.8.1 (Milestone Payments, General) with respect to the first Product for each RT Preclinical Research Program to achieve the applicable RT Target Development and Regulatory Milestone Event described below during the Term are as follows:

RT Target Development and Regulatory Milestone Events	**Milestone Payment**
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]

The maximum total amount payable under this Section 7.8.3 (RT Target Development Milestones) shall not exceed one hundred million Dollars ($100,000,000) per RT Target subject to this Agreement pursuant to Section 7.8.1 (Milestone Payments, General). For clarity, no Milestone Payment is payable for subsequent or repeated achievements of the same RT Target Development and Regulatory Milestone Event with respect to the same Licensed Product (including formulations), or any subsequent Licensed Products with respect to an RT Target for which an RT

Target Development and Regulatory Milestone Event has occurred (see, e.g., the following example set forth in the remainder of this Section 7.8.3 (RT Target Development Milestones)). By way of example and not limitation, assume that a Licensed Product achieves the first RT Target Development and Regulatory Milestone Event for the first (1st) RT Target, and immediately after the Initiation of the Phase II Clinical Trial for such Licensed Product, Moderna decides to discontinue the Development of such Licensed Product Directed Against that RT Target. In such case, Moderna would pay Metagenomi the Milestone Payment corresponding to the first RT Target Development and Regulatory Milestone Event set forth in the table above upon the attainment of such first RT Target Development and Regulatory Milestone Event by such Licensed Product. Then, assume that a different Licensed Product for the same RT Target achieves the first RT Target Development and Regulatory Milestone Event. In such case, no Milestone Payment is due upon the attainment of the first RT Target Development and Regulatory Milestone Event with respect to the second Licensed Product, and Moderna would pay Metagenomi the Milestone Payments corresponding to the second RT Target Development and Regulatory Milestone Event set forth in the table above upon the attainment of such second RT Target Development and Regulatory Milestone Event by such second Licensed Product. With respect to each RT Target Development and Regulatory Milestone Event that has two potential options of either (i) or (ii) in the table above, if the first achievement is for the RT Target Development and Regulatory Milestone Event under clause (ii), and if there is a subsequent achievement for the clause (i) version of the same RT Target Development and Regulatory Milestone Event, then upon the occurrence of such subsequent achievement the difference between the amount of clauses (i) and (ii) shall be payable. By way of example, if the first Pricing and Reimbursement Approval in the United Kingdom is obtained for a Licensed Product Directed Against a particular RT Target in an Orphan Indication (a clause (ii) occurrence), then [***] would be owing in accordance with the table above, and if subsequently Pricing and Reimbursement Approval in the United Kingdom is obtained for a Licensed Product Directed Against the same RT Target in a Non-Orphan Indication, then an additional [***] would be due [***].

Moderna shall provide prompt written notice to Metagenomi upon achievement of an RT Target Development and Regulatory Milestone Event. Metagenomi shall send an invoice for the applicable Milestone Payment within sixty (60) days after receiving the written notice from Moderna.

7.8.4 **RT Target Sales Milestones**. The Milestone Payments to be made by Moderna to Metagenomi pursuant to Section 7.8.1 (Milestone Payments, General) with respect to the first occurrence of all Licensed Products Directed Against a given RT Target collectively achieving the below RT Target Sales Milestone Events are as follows:

RT Target Sales Milestone Event	Milestone Payment
First Calendar Year in which annual Net Sales of all Licensed Products Directed Against such RT Target in the Territory exceed [***]	[***]
First Calendar Year in which annual Net Sales of all Licensed Products Directed Against such RT Target in the Territory exceed [***]	[***]
First Calendar Year in which annual Net Sales of all Licensed Products Directed Against such RT Target in the Territory exceed [***]	[***]
First two consecutive Calendar Years in each of which annual Net Sales of all Licensed Products Directed Against such RT Target in the Territory exceed one and [***]	[***]

The maximum total amount payable under this Section 7.8.4 (RT Target Sales Milestones) shall not exceed two hundred million Dollars ($200,000,000) per RT Target subject to this Agreement pursuant to Section 7.8.1 (Milestone Payments, General). If more than one RT Target Sales Milestone Event is achieved in the same Calendar Year, Moderna shall pay Metagenomi all Milestone Payments for such RT Target Sales Milestone Events achieved in such Calendar Year in accordance with this Section 7.8.4 (RT Target Development Milestones).

Moderna shall provide prompt written notice to Metagenomi upon achievement of an RT Target Sales Milestone Event. Metagenomi shall send an invoice for the applicable Milestone Payment within sixty (60) days after receiving the written notice from Moderna.

7.8.5 **DT Moderna Target Development Milestones**. The Milestone Payments to be made by Moderna to Metagenomi pursuant to Section 7.8.1 (Milestone Payments, General) with respect to the first Product for each DT Moderna Target achieving a DT Moderna Target Development and Regulatory Milestone Event described below during the Term are as follows:

DT Moderna Target Development and Regulatory Milestone Events	Milestone Payment
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]

The maximum total amount payable under this Section 7.8.5 (DT Moderna Target Development Milestones) shall not exceed one hundred million Dollars ($100,000,000) per DT Moderna Target subject to this Agreement pursuant to Section 7.8.1 (Milestone Payments, General). For clarity, no Milestone Payment is payable for subsequent or repeated achievements of the same DT Moderna Target Development and Regulatory Milestone Event with respect to the same Licensed Product (including formulations), or any subsequent Licensed Products with respect to a DT Moderna Target (or multiple targets that include the same DT Moderna Target) for which a DT Moderna Target Development and Regulatory Milestone Event has occurred (see, e.g., the following example set forth in the remainder of this Section 7.8.5 (DT Moderna Target Development Milestones)). By way of example and not limitation, assume that a Licensed Product achieves the first DT Moderna Target Development and Regulatory Milestone Event for the first (1st) DT Moderna Target, and immediately after the Initiation of the Phase II Clinical Trial for such Licensed Product, Moderna decides to discontinue the Development of such Licensed Product Directed Against that DT Moderna Target. In such case, Moderna would pay Metagenomi the Milestone Payment corresponding to the first DT Moderna Target Development and Regulatory Milestone Event set forth in the table above upon the attainment of such DT Moderna Target Development and Regulatory Milestone Event by such Licensed Product. Then, assume that a different Licensed Product for the same DT Moderna Target achieves the first DT Moderna Target

Development and Regulatory Milestone Event. In such case, no Milestone Payment is due upon the attainment of the first DT Moderna Target Development and Regulatory Milestone Event with respect to the second Licensed Product, and Moderna would pay Metagenomi the Milestone Payment corresponding to the second DT Moderna Target Development and Regulatory Milestone Event set forth in the table above upon the attainment of such second DT Moderna Target Development and Regulatory Milestone Event by such second Licensed Product. With respect to each DT Moderna Target Development and Regulatory Milestone Event that has two potential options of either (i) or (ii) in the table above, if the first achievement is for the DT Moderna Target Development and Regulatory Milestone Event under clause (ii), and if there is a subsequent achievement for the clause (i) version of the same DT Moderna Target Development and Regulatory Milestone Event, then upon the occurrence of such subsequent achievement the difference between the amount of clauses (i) and (ii) shall be payable. By way of example, if the first Pricing and Reimbursement Approval in the United Kingdom is obtained for a Licensed Product Directed Against a particular DT Moderna Target in an Orphan Indication (a clause (ii) occurrence), then [***] would be owing in accordance with the table above, and if subsequently Pricing and Reimbursement Approval in the United Kingdom is obtained for a Licensed Product Directed Against the same DT Moderna Target in a Non-Orphan Indication, then an additional [***] would be due [***].

Moderna shall provide prompt written notice to Metagenomi upon achievement of a DT Moderna Target Development and Regulatory Milestone Event. Metagenomi shall send an invoice for the applicable Milestone Payment within [***] after receiving the written notice from Moderna.

7.8.6 **DT Moderna Target Sales Milestones**. The Milestone Payments to be made by Moderna to Metagenomi pursuant to Section 7.8.1 (Milestone Payments, General) with respect to the first occurrence of all Licensed Products Directed Against a given DT Moderna Target collectively achieving the below DT Moderna Target Sales Milestone Events are as follows:

DT Moderna Target Sales Milestone Event	Milestone Payment
First Calendar Year in which annual Net Sales of all Licensed Products Directed Against such DT Moderna Target in the Territory exceed [***]	[***]
First Calendar Year in which annual Net Sales of all Licensed Products Directed Against such DT Moderna Target in the Territory exceed [***]	[***]
First Calendar Year in which annual Net Sales of all Licensed Products Directed Against such DT Moderna Target in the Territory exceed [***]	[***]
First two Consecutive Calendar Years in each of which annual Net Sales of all Licensed Products Directed Against such DT Moderna Target exceed one and [***]	[***]

The maximum total amount payable under this Section 7.8.6 (DT Moderna Target Sales Milestones) shall not exceed two hundred million Dollars ($200,000,000) per DT Moderna Target subject to this Agreement pursuant to Section 7.8.1 (Milestone Payments, General). If more than one DT Moderna Target Sales Milestone Event is achieved in the same Calendar Year, Moderna shall pay Metagenomi all Milestone Payments for such DT Moderna Target Sales Milestone Events achieved in such Calendar Year in accordance with this Section 7.8.6 (DT Moderna Target Sales Milestones).

Moderna shall provide prompt written notice to Metagenomi upon achievement of a DT Moderna Target Sales Milestone Event. Metagenomi shall send an invoice for the applicable Milestone Payment within sixty (60) days after receiving the written notice from Moderna.

7.9 **Royalties on Products Directed Against an RT Target**.

7.9.1 **Royalties**. Subject to the remainder of this Section 7.9 (Royalties on Products Directed Against an RT Target), on an RT Target-by-RT Target basis, Moderna shall pay Metagenomi royalties as set forth below on aggregate annual Net Sales of Licensed Products Directed Against an RT Target with respect to which Moderna has exercised the RT Option pursuant to Section 3.9 (RT Option) in the Territory, as calculated by multiplying the applicable royalty rate set forth below by the corresponding portion of aggregate annual Net Sales of such Licensed Products in the Territory, during the period of time, on a Licensed Product-by-Licensed Product and country-by-country basis, beginning on the First Commercial Sale of any such Licensed Product in such country and continuing until the latest of: (a) the expiration or abandonment of the last-to-expire Valid Claim of a Patent within the Licensed RT Technology in such country [***], contained in such Licensed Product; (b) ten (10) years after the First Commercial Sale of such Licensed Product in such country; and (c) expiration of the Regulatory Exclusivity in such country with respect to such Licensed Product (the "**RT Royalty Term**"). Notwithstanding anything else herein to the contrary, any pharmaceutical product Commercialized as a single-priced pharmaceutical product by or on behalf of Moderna or any of its Affiliates or Sublicensees, which comprises two or more Licensed RT Products, each Directed Against a different RT Target, shall be deemed one Licensed RT Product Directed Against only one RT Target of Moderna's choosing, for purposes of this Section 7.9 (Royalties on Products Directed Against an RT Target), provided that the RT Royalty Term for such Licensed RT Product shall be the longest of the RT Royalty Terms for each of the Licensed RT Products in such pharmaceutical product if they were separate Licensed RT Products.

Aggregate Annual Net Sales of all Licensed Products Directed Against an RT Target in the Territory	**Royalty Rate**
For that portion of aggregate annual Net Sales of all Licensed Products Directed Against such RT Target less than or equal to [***]	[***]
For that portion of aggregate annual Net Sales of all Licensed Products Directed Against such RT Target greater than one hundred and [***] and less than or equal to [***]	[***]
For that portion of aggregate annual Net Sales of all Licensed Products Directed Against such RT Target greater than [***] and less than or equal to [***]	[***]
For that portion of aggregate annual Net Sales of all Licensed Products Directed Against such RT Target greater than [***] and less than or equal to [***]	[***]
For that portion of aggregate annual Net Sales of all Licensed Products Directed Against such RT Target greater than [***]	[***]

7.9.2 **Valid Claim**. On a Licensed Product-by-Licensed Product and country-by-country basis, with respect to a Licensed Product Directed Against an RT Target that is subject to royalties under this Section 7.9 (Royalties on Products Directed Against an RT Target), at any time during the RT Royalty Term when no Valid Claim (including in the event of expiration) of any Patent within the Licensed RT Technology Covers such Licensed Product in a country, the royalty rates provided in Section 7.9.1 (Royalties) for such Licensed Product shall immediately be reduced in such country by [***] and shall remain so reduced for the remainder of the RT Royalty Term for so long as there is no such Valid Claim.

7.9.3 **Biosimilar Products**. On a country-by-country and Licensed Product-by-Licensed Product basis, with respect to a Licensed Product Directed Against an RT Target that is subject to royalties under this Section 7.9 (Royalties on Products Directed Against an RT Target), from and after the first Calendar Year in which a Biosimilar Product is sold in a given country and has achieved (i) [***] unit sales in such country in the market segment in which such Licensed Product competes in such country, the royalties payable pursuant to Section 7.9.1 (Royalties) for such Licensed Product shall be reduced in such country by [***] of the royalties otherwise payable under Section 7.9.1 (Royalties) and (ii) [***] unit sales in such country in the market segment in which such Licensed Product competes in such country, the royalties payable pursuant to Section 7.9.1 (Royalties) for such Licensed Product shall be reduced in such country by [***] of the royalties otherwise payable under Section 7.9.1 (Royalties).

7.9.4 **Third Party Payments**. Without prejudicing Moderna's right under Section 5.11.3 (RT Moderna In-License Agreements), if Moderna or any of its Affiliates or sublicensees in-licenses any intellectual property from a Third Party that is necessary or reasonably useful to conduct the Research, Development, Commercialization, making, having made, use, keeping, importation, exportation, offering for sale, sale or other Exploitation of a Licensed RT Product in the Territory that is subject to royalties under this Section 7.9 (Royalties on Products Directed Against an RT Target) or milestone payments to Metagenomi under Sections 7.8.2 (Technology Milestone Fees) through 7.8.4 (RT Target Sales Milestones), Moderna may deduct [***] of any and all milestone, royalty, and other payments (including required reimbursement for costs incurred in connection with enforcement or other actions and required sharing of certain recoveries) paid by it to such Third Party from any royalty payments to Metagenomi under this Section 7.9 (Royalties on Products Directed Against an RT Target) or milestone payments to Metagenomi under Sections 7.8.2 (Technology Milestone Fees) through 7.8.4 (RT Target Sales Milestones) for each Licensed RT Product.

7.9.5 **Cumulative Reductions Floor**. In no event will the aggregate amount of royalties due to Metagenomi for a Licensed Product Directed Against an RT Target in a country in the Territory in any given Calendar Quarter during the RT Royalty Term for such Licensed Product Directed Against an RT Target in such country be reduced by more than [***] of the amount that otherwise would have been due and payable to Metagenomi in such Calendar Quarter for such Licensed Product Directed Against an RT Target in such country as a result of the reductions set forth in Section 7.9.2 (Valid Claims), Section 7.9.3 (Biosimilar Products) and Section 7.9.4 (Third Party Payments), except in the event of Section 5.11.5 (Metagenomi Payments for Certain Technology) or Section 7.9.3(ii) (Biosimilar Products), which, for clarity, may result in up to [***] reduction of the royalties. Moderna may carry forward any such reductions permitted in accordance with Section 5.11.5 (Metagenomi Payments for Certain Technology), Section 7.9.2 (Valid Claims), Section 7.9.3 (Biosimilar Products) and Section 7.9.4 (Third Party Payments) that are incurred or accrued in a Calendar Quarter but that are not applied against royalties due to Metagenomi for such Licensed Product Directed Against an RT Target in such country in such

Calendar Quarter as a result of the foregoing floor and apply such amounts against royalties due to Metagenomi for such Licensed Product Directed Against an RT Target in such country in any subsequent Calendar Quarter (subject to the minimum floor set forth in this Section 7.9.5 (Cumulative Reductions Floor)) until the amount of such reduction has been fully applied against royalties due to Metagenomi for such Licensed Product Directed Against an RT Target in such country.

7.10 **Royalties on Products Directed Against a DT Moderna Target**.

7.10.1 **Royalties**. On a DT Moderna Target-by-DT Moderna Target basis, Moderna shall pay Metagenomi royalties as set forth below on aggregate annual Net Sales of Licensed Products Directed Against a DT Moderna Target with respect to which Moderna has exercised the DT Option pursuant to Section 4.9 (DT Option) in the Territory, as calculated by multiplying the applicable royalty rate set forth below by the corresponding portion of aggregate annual Net Sales of such Licensed Products in the Territory, during the period of time, on a Licensed Product-by-Licensed Product and country-by-country basis, beginning on the First Commercial Sale of any such Licensed Product in such country and continuing until the latest of: (a) the expiration or abandonment of the last-to-expire Valid Claim of a Patent within the Licensed DT Moderna Technology in such country [***], contained in such Licensed Product; (b) ten (10) years after the First Commercial Sale of such Licensed Product in such country; and (c) expiration of the Regulatory Exclusivity in such country with respect to such Licensed Product (the "**DT Moderna Royalty Term**"). Notwithstanding anything else herein to the contrary, any pharmaceutical product Commercialized as a single-priced pharmaceutical product by or on behalf of Moderna or any of its Affiliates or Sublicensees, which comprises two or more Licensed DT Products, each Directed Against a different DT Moderna Target, shall be deemed one Licensed DT Product Directed Against only one DT Moderna Target of Moderna's choosing, for purposes of this Section 7.10 (Royalties on Products Directed Against a DT Moderna Target), provided that the DT Moderna Royalty Term for such Licensed DT Product shall be the longest of the DT Moderna Royalty Terms for each of the Licensed DT Products in such pharmaceutical product if they were separate Licensed DT Products.

Aggregate Annual Net Sales of all Licensed Products Directed Against a DT Moderna Target in the Territory	**Royalty Rate**
For that portion of aggregate annual Net Sales of all Licensed Products Directed Against a DT Moderna Target less than or equal to [***]	[***]
For that portion of aggregate annual Net Sales of all Licensed Products Directed Against a DT Moderna Target greater than [***] and less than or equal to [***]	[***]
For that portion of aggregate annual Net Sales of all Licensed Products Directed Against a DT Moderna Target greater than [***] and less than or equal to [***]	[***]
For that portion of aggregate annual Net Sales of all Licensed Products Directed Against a DT Moderna Target greater than [***] and less than or equal to [***]	[***]
For that portion of aggregate annual Net Sales of all Licensed Products Directed Against a DT Moderna Target greater than [***]	[***]

7.10.2 **Valid Claim**. On a Licensed Product-by-Licensed Product and country-by-country basis, with respect to a Licensed Product Directed Against a DT Moderna Target that is subject to royalties under this Section 7.10 (Royalties on Products Directed Against a DT Moderna Target), at any time during the DT Moderna Royalty Term when no Valid Claim (including in the event of expiration) of any Patent within the Licensed DT Moderna Technology Covers such Licensed Product in a country, the royalty rates provided in Section 7.10.1 (Royalties) for such Licensed Product shall immediately be reduced in such country by [***] and shall remain so reduced for the remainder of the DT Moderna Royalty Term for so long as there is no such Valid Claim.

7.10.3 **Biosimilar Products**. On a country-by-country and Licensed Product-by-Licensed Product basis, with respect to a Licensed Product Directed Against a DT Moderna Target that is subject to royalties under this Section 7.10 (Royalties on Products Directed Against a DT Moderna Target), from and after the first Calendar Year in which a Biosimilar Product is sold in a given country and has achieved (i) [***] unit sales in such country in the market segment in which such Licensed Product competes in such country, the royalties payable pursuant to Section 7.10.1 (Royalties) for such Licensed Product shall be reduced in such country by [***] of the royalties otherwise payable under Section 7.10.1 (Royalties) and (ii) [***] unit sales in such country in the market segment in which such Licensed Product competes in such country, the royalties payable pursuant to Section 7.10.1 (Royalties) for such Licensed Product shall be reduced in such country by [***] of the royalties otherwise payable under Section 7.10.1 (Royalties).

7.10.4 **Third Party Payments**. Without prejudicing Moderna's right under Section 5.12.3 (DT Moderna In-License Agreements), if Moderna or any of its Affiliates or sublicensees in-licenses any intellectual property from a Third Party that is necessary or reasonably useful to conduct the Research, Development, Commercialization, making, having made, use, keeping, importation, exportation, offering for sale, sale or other Exploitation of a Licensed DT Product in the Territory that is subject to royalties under this Section 7.10 (Royalties on Products Directed Against a DT Moderna Target) or milestone payments to Metagenomi under Sections 7.8.5 (DT Moderna Target Development Milestones) or 7.8.6 (DT Moderna Target Sales Milestones), Moderna may deduct [***] of any and all milestone, royalty, and other payments (including required reimbursement for costs incurred in connection with enforcement or other actions and required sharing of certain recoveries) paid by it to such Third Party from any royalty payments to Metagenomi under this Section 7.10 (Royalties on Products Directed Against a DT Moderna Target) or milestone payments to Metagenomi under Sections 7.8.5 (DT Moderna Target Development Milestones) and 7.8.6 (DT Moderna Target Sales Milestones) for each Licensed DT Product.

7.10.5 **Cumulative Reductions Floor**. In no event will the aggregate amount of royalties due to Metagenomi for a Licensed Product Directed Against a DT Moderna Target in a country in the Territory in any given Calendar Quarter during the DT Moderna Royalty Term for such Licensed Product Directed Against a DT Moderna Target in such country be reduced by more than [***] of the amount that otherwise would have been due and payable to Metagenomi in such Calendar Quarter for such Licensed Product Directed Against a DT Moderna Target in such country as a result of the reductions set forth in Section 7.10.2 (Valid Claims), Section 7.10.3 (Biosimilar Products) and Section 7.10.4 (Third Party Payments), except in the event of Section 5.12.5 (Metagenomi Payments for Certain Technology) or Section 7.10.3(ii) (Biosimilar Products), which, for clarity, may result in up to [***] reduction of the royalties. Moderna may carry forward any such reductions permitted in accordance with Section 5.12.5 (Metagenomi Payments for Certain Technology), Section 7.10.2 (Valid Claims), Section 7.10.3 (Biosimilar Products) and Section 7.10.4 (Third Party Payments) that are incurred or accrued in a Calendar

Quarter but that are not applied against royalties due to Metagenomi for such Licensed Product Directed Against a DT Moderna Target in such country in such Calendar Quarter as a result of the foregoing floor and apply such amounts against royalties due to Metagenomi for such Licensed Product Directed Against a DT Moderna Target in such country in any subsequent Calendar Quarter (subject to the minimum floor set forth in this Section 7.10.5 (Cumulative Reductions Floor)) until the amount of such reduction has been fully applied against royalties due to Metagenomi for such Licensed Product Directed Against a DT Moderna Target in such country.

7.11 **Opt-Out Milestones and Royalties**.

7.11.1 **Opt-Out Milestones**. With respect to each DT Co-Co Program for which the Opt-Out Party has exercised its Opt-Out Right pursuant to Section 6.8 (Opt-Out Right), the Primary Party shall pay to the Opt-Out Party, certain milestone payments set forth in this Section 7.11.1 (Opt-Out Milestones) (the "**Opt-Out DT Co-Co Milestone Payments**") within sixty (60) days following the receipt of an invoice from the Opt-Out Party for the applicable Opt-Out DT Co-Co Milestone Payment in respect of (a) the first DT Co-Co Product in such DT Co-Co Program achieving a DT Co-Co Product development and regulatory milestone event set forth in Section 7.11.1(a) (Opt-Out DT Co-Co Product Development and Regulatory Milestone Events) (the "**Opt-Out DT Co-Co Product Development and Regulatory Milestone Events**"), and (b) the first occurrence of all DT Co-Co Products Directed Against the DT Co-Co Target in such DT Co-Co Program collectively achieving the sales milestone events set forth in Section 7.11.1(b) (Opt-Out DT Co-Co Product Sales Milestone Events) (the "**Opt-Out DT Co-Co Product Sales Milestone Events**").

(a) **Opt-Out DT Co-Co Product Development and Regulatory Milestone Events**. The Opt-Out DT Co-Co Milestone Payments to be made by the Primary Party to the Opt-Out Party pursuant to Section 7.11.1 (Opt-Out Milestones) with respect to the first DT Co-Co Product in such DT Co-Co Program achieving a DT Co-Co Product Development and Regulatory Milestone Event described below during the Term are as follows:

Opt-Out DT Co-Co Product Development and Regulatory Milestone Event	Opt-Out DT Co-Co Milestone Payment
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]

The Primary Party shall provide prompt written notice to the Opt-Out Party upon achievement of an Opt-Out DT Co-Co Product Development and Regulatory Milestone Event. The Opt-Out Party shall send an invoice for the applicable Opt-Out DT Co-Co Milestone Payment within [***] after receiving the written notice from the Primary Party.

(b) **Opt-Out DT Co-Co Product Sales Milestone Events**. The Opt-Out DT Co-Co Milestone Payments to be made by the Primary Party to the Opt-Out Party pursuant to Section 7.11.1 (Opt-Out Milestones) with respect to the first occurrence of all DT Co-Co Products Directed Against the DT Co-Co Target of such Opt-Out DT Co-Co Program collectively achieving the below Opt-Out DT Co-Co Product Sales Milestone Events are as follows:

Opt-Out DT Co-Co Product Sales Milestone Event	Opt-Out DT Co-Co Milestone Payment
First Calendar Year in which annual Net Sales of all DT Co-Co Products Directed Against the DT Co-Co Target in the Territory exceed [***]	[***]
First Calendar Year in which annual Net Sales of all DT Co-Co Products Directed Against the DT Co-Co Target in the Territory exceed [***]	[***]
First Calendar Year in which annual Net Sales of all DT Co-Co Products Directed Against the DT Co-Co Target in the Territory exceed [***]	[***]
First two consecutive Calendar Years in each of which annual Net Sales of all DT Co-Co Products Directed Against the DT Co-Co Target in the Territory exceed [***]	[***]

The maximum total amount payable under this Section 7.11.1 (Opt-Out Milestones) shall not exceed two hundred million Dollars ($200,000,000) per DT Co-Co Target. If more than one Opt-Out DT Co-Co Product Sales Milestone Event is achieved in the same Calendar Year, the Primary Party shall pay the Opt-Out Party all Opt-Out DT Co-Co Milestone Payments for such Opt-Out DT Co-Co Product Sales Milestone Events achieved in such Calendar Year in accordance with this Section 7.11.1 (Opt-Out Milestones).

The Primary Party shall provide prompt written notice to the Opt-Out Party upon achievement of an Opt-Out DT Co-Co Product Sales Milestone Event. The Opt-Out Party shall send an invoice for the applicable Opt-Out DT Co-Co Milestone Payment within sixty (60) days after receiving the written notice from the Primary Party.

7.11.2 **Opt-Out Royalties**.

(a) **Royalties**. The Primary Party shall pay the Opt-Out Party, on a DT Co-Co Product-by-DT Co-Co Product and country-by-country basis, royalties as set forth below on annual Net Sales of such DT Co-Co Products Directed Against the DT Co-Co Target in the DT Co-Co Program in the Territory, as calculated by multiplying the applicable royalty rate set forth below by the corresponding portion of annual Net Sales of such DT Co-Co Product in such country, until the latest to occur of (i) the date of expiration of the last-to-expire Valid Claim of any Patents within the Licensed DT Co-Co Technology licensed by the Opt-Out Party to the Primary Party under Section 5.5 (DT Co-Co Program License) that Cover the composition-of-matter or use of at least one (1) mRNA Construct, or a Gene Editing protein encoded by a mRNA Construct, contained in such DT Co-Co Product in such country in the Territory, (ii) the date of expiration of marketing or Regulatory Exclusivity for such DT Co-Co Product in such country in the Territory, or (iii) the date that is ten (10) years from First Commercial Sale of such DT Co-Co Product in such country in the Territory (the "**Opt-Out Royalty Term**"):

If Opt-Out Occurs	Opt-Out Royalty Rate
[***]	[***]
[***]	[***]

(b) **Valid Claim**. On a DT Co-Co Product-by-DT Co-Co Product and country-by-country basis, with respect to a DT Co-Co Product that is subject to royalties under this Section 7.11.2 (Opt-Out Royalties), at any time during the Opt-Out Royalty Term when no Valid Claim (including in the event of expiration) of any Patents within the Licensed DT Co-Co Technology licensed by the Opt-Out Party to the Primary Party Covers such DT Co-Co Product in a country, the royalty rates provided in Section 7.11.2(a) (Royalties) for such DT Co-Co Product shall immediately be reduced in such country by [***] and shall remain so reduced for the remainder of the Opt-Out Royalty Term for so long as there is no such Valid Claim.

(c) **Biosimilar Products**. On a country-by-country and DT Co-Co Product-by-DT Co-Co Product basis, with respect to a DT Co-Co Product that is subject to royalties under this Section 7.11.2 (Opt-Out Royalties), from and after the first Calendar Year in which a Biosimilar Product is sold in a given country and has achieved (i) [***] unit sales in such country in the market segment in which such DT Co-Co Product competes in such country, the royalties payable pursuant to Section 7.11.2(a) (Royalties) for such DT Co-Co Product shall be reduced in such country by [***] of the royalties otherwise payable under Section 7.11.2(a) (Royalties) and (ii) [***] unit sales in such country in the market segment in which such Licensed Product competes in such country, the royalties payable pursuant to Section 7.11.2(a) (Royalties) for such DT Co-Co Product shall be reduced in such country by [***] of the royalties otherwise payable under Section 7.11.2(a) (Royalties).

(d) **Third Party Payments**. If the Primary Party or any of its Affiliates or sublicensees in-licenses any right to any intellectual property from a Third Party that is necessary or reasonably useful to conduct the Research, Development, Commercialization, making, having made, use, keeping, importation, exportation, offering for sale, sale or other Exploitation of an applicable DT Co-Co Product in the Territory that is subject to royalties under this Section 7.11.2 (Opt-Out Royalties) (or milestone payments under Sections 7.11.1(a) (Opt-Out DT Co-Co Product Development and Regulatory Milestone Events)) or 7.11.1(b) (Opt-Out DT Co-Co Product Sales Milestone Events), the Primary Party may deduct [***] of any and all milestone, royalty, and other payments (including required reimbursement for costs incurred in connection with enforcement or other actions and required sharing of certain recoveries) paid by it to such Third Party (which, for the avoidance of doubt, include the Primary Party's Third Party Payment pursuant to the last sentence of Sections 5.10.3(b) (Payments under Co-Co Moderna In-License Agreements) and 5.10.4(b) (Payments under Co-Co Metagenomi In-License Agreements), respectively, Moderna's Third Party Payment pursuant to Section 5.10.5 (Metagenomi Payments for Certain Technology) and Metagenomi's Third Party Payment pursuant to 5.10.6 (Moderna Payments for Certain Technology), as applicable) from any royalty payments to the Opt-Out Party under this Section 7.11.2 (Opt-Out Royalties) or milestone payments under Sections 7.11.1(a) (Opt-Out DT Co-Co Product Development and Regulatory Milestone Events) or 7.11.1(b) (Opt-Out DT Co-Co Product Sales Milestone Events) for each such DT Co-Co Product.

(e) **Cumulative Reductions Floor**. In no event will the aggregate amount of royalties due to the Opt-Out Party for a DT Co-Co Product in a country in the Territory in any given Calendar Quarter during the Opt-Out Royalty Term for such DT Co-Co Product in such country be reduced by more than [***] of the amount that otherwise would have been due and payable to the Primary Party in such Calendar Quarter for such DT Co-Co Product in such country as a result of the reductions set forth in Section 7.11.2(b) (Valid Claims), Section 7.11.2(c)

(Biosimilar Products) and Section 7.11.2(d) (Third Party Payments), except in the event of Section 5.10.5 (Metagenomi Payments for Certain Technology) or Section 7.11.2(c)(ii) (Biosimilar Products), which, for clarity, may result in up to [***] reduction of the royalties. The Primary Party may carry forward any such reductions permitted in accordance with Section 7.11.2(b) (Valid Claims), Section 7.11.2(c) (Biosimilar Products) and Section 7.11.2(d) (Third Party Payments) that are incurred or accrued in a Calendar Quarter but that are not applied against royalties due to the Opt-Out Party for such DT Co-Co Product in such country in such Calendar Quarter as a result of the foregoing floor and apply such amounts against royalties due to the Opt-Out Party for such DT Co-Co Product in such country in any subsequent Calendar Quarter (subject to the minimum floor set forth in this Section 7.11.2(e) (Cumulative Reductions Floor)) until the amount of such reduction has been fully applied against royalties due to the Opt-Out Party for such DT Co-Co Product in such country.

7.12 **Payment; Reports; Royalty Minimum**. Royalty payments due under this Article 7 (Fees; Royalties, & Payments) shall be calculated, reported and invoiced for each Calendar Quarter. Within [***] after the end of each Calendar Quarter, Moderna (or the Primary Party, as the case may be) shall provide Metagenomi (or the Opt-Out Party, as the case may be) a report setting forth Net Sales and royalty for each applicable Product in the Territory or Ex-U.S., as applicable, in such Calendar Quarter. Metagenomi (or the Opt-Out Party, as the case may be) shall send an invoice for the applicable royalty payment within [***] after receiving the report from Moderna (or the Primary Party, as the case may be). The applicable royalty payments shall be paid within [***] following the receipt of the invoice.

7.13 **Method of Payment; Foreign Exchange**. Unless otherwise agreed by the Parties, all payments due under this Agreement shall be paid in Dollars by wire transfer or electronic funds transfer of immediately available funds to an account designated by the payee; provided that each Party shall only be required to disburse funds to the payee's jurisdiction of incorporation or to a jurisdiction in which the payee has a significant business presence. For any currency conversion required in determining the amount of payments due hereunder, such conversion shall be made as follows: (a) when calculating Net Sales, the amount of such sales in foreign currencies shall be converted into Dollars using the average rate of exchange over the applicable Calendar Quarter as reported in The Wall Street Journal, Internet U.S. Edition at www.wsj.com, as of the last day of the applicable reporting period (or, if unavailable on such date, the first date thereafter on which such rate is available), and (b) when calculating all other sums due under this Agreement, the amount in foreign currencies shall be converted into Dollars using the average rate of exchange for the applicable month as reported in The Wall Street Journal, Internet U.S. Edition at www.wsj.com, as of the last day of the applicable month (or, if unavailable on such date, the first date thereafter on which such rate is available).

7.14 **Records and Audits**. Each Party shall keep, and shall cause its Affiliates and Sublicensees to keep, complete and accurate records which may be necessary to ascertain properly and to verify the royalty payments due hereunder. Such records shall be kept for such period of time required by Applicable Laws. Within the Term, the other Party shall not more than once each year have the right to have its independent, certified public accountant inspect such Party's records for the purpose of determining the accuracy of royalty payments for a period covering not more than [***] following the Calendar Quarter to which they pertain. No period shall be audited more than once. The other Party shall submit an audit plan, including audit scope, to such Party for its

approval, which shall not be unreasonably withheld, conditioned or delayed, prior to audit implementation. The independent, certified public accountant selected shall keep confidential any information obtained during such inspection and shall report to the Parties only the amounts of Net Sales and royalties due and payable. Such audits may be exercised during normal business hours upon reasonable prior written notice to such Party. If determined that additional royalties are owed, or that royalties were overpaid, during such period, such Party shall pay the other Party the additional royalties or the other Party shall pay such Party the overpaid royalties, as applicable, within [***] of the date the independent, certified public accountant's written report is received by the paying Party. The fees charged by the accounting firm of such accountant shall be paid by the auditing Party unless any additional royalties owed exceed [***] and [***] of the royalties paid for the royalty period subject to the audit, in which case the audited Party shall pay the reasonable fees of such accounting firm.

7.15 **Default Interest**. If and to the extent that either Party fails to make any payment hereunder when due in accordance with the applicable provisions of this Agreement (excluding any payment made due to a good faith error identified via an audit conducted by an independent, certified public accountant pursuant to Section 7.14 (Records and Audits)), such Party shall pay to the other Party default interest at a rate of [***] as from the due date (as reported in *The Wall Street Journal* (Eastern U.S. edition)) or the maximum rate allowable by Applicable Law, whichever is less. Interest shall be paid on a simple annual interest rate. From and after the Effective Date, the Parties shall meet in good faith and agree on an appropriate replacement for the LIBOR rate to be used in substitution hereunder (with such agreed replacement to be appropriately documented in writing and termed as expressly superseding the operation of this Section 7.15 (Default Interest)), with such agreed replacement to be implemented prior to the [***].

7.16 **Taxes**.

7.16.1 **Partnership Tax Matters**. Each Party shall be solely responsible for the payment of all taxes imposed on its share of income arising directly or indirectly from the collaborative efforts of the Parties under this Agreement. The Parties intend that the DT Co-Co Program gives rise to a partnership solely for U.S. federal and applicable state and local income tax purposes, and shall be governed by the terms of **Schedule M** (Partnership Tax Matters) with respect to the tax matters set forth therein.

7.16.2 **Cooperation and Coordination**. Except as set forth in Section 7.16.1 (Partnership Tax Matters) or **Schedule M** (Partnership Tax Matters) with respect to the DT Co-Co Program, the Parties acknowledge and agree that it is their mutual objective and intent to minimize, to the extent feasible and in compliance with Applicable Laws, taxes payable with respect to their collaborative efforts under this Agreement and that they shall use reasonable efforts to cooperate and coordinate with each other to achieve such objective. Each Party shall provide the other with reasonable assistance to enable the recovery, as permitted by Applicable Law, of withholding taxes resulting from payments made under this Agreement, such recovery to be for the benefit of the Party bearing such withholding tax.

7.16.3 **Payment of Tax**. Except as set forth in Section 7.16.1 (Partnership Tax Matters) or **Schedule M** (Partnership Tax Matters) with respect to the DT Co-Co Program, the upfront, milestones, royalties and other amounts payable by one Party to the other Party under this Agreement (each, a "**Payment**") shall be paid free and clear of any and all taxes, except for any withholding taxes required by Applicable Law. Except as provided in this Section 7.16.3 (Payment of Tax), the payee shall be solely responsible for paying any and all taxes (other than withholding taxes required by Applicable Law to be deducted from Payments and remitted by the payor) levied on account of, or measured in whole or in part by reference to, any Payments it receives. The payor shall deduct or withhold from the Payments any taxes that it is required by Applicable Law to deduct or withhold. Notwithstanding the foregoing, if the payee is entitled under any applicable tax treaty to a reduction of rate of, or the elimination of, applicable withholding tax, it may deliver to the payor or the appropriate Governmental Authority (with the assistance of the payor to the extent that this is reasonably required and is expressly requested in writing) the prescribed forms necessary to reduce the applicable rate of withholding or to relieve the payor of its obligation to withhold such tax and the payor shall apply the reduced rate of withholding or dispense with withholding as the case may be; provided that the payor has received evidence, in a form satisfactory to the payor, of the payee's delivery of all applicable forms (and, if necessary, its receipt of appropriate governmental authorization) at least [***] prior to the time Payments are due. If in accordance with the foregoing, the payor withholds any amounts of tax, it shall pay to the payee the balance when due, make timely payment to the proper tax authority of the withheld amount and send to the payee proof of such payment within [***] following such payments. If the paying party failed to deduct or withhold tax required by Applicable Law, the payee shall indemnify and hold harmless the paying party from any such taxes and further, shall assist the paying party with regard to all procedures required in order to obtain relief and, if appropriate, reimbursement by tax authorities (including providing proof, if applicable, that the appropriate tax has in fact been paid by the payee) or, in case tax authorities will not reimburse withholding tax to the paying party, the payee will immediately pay to the paying party (for remittance to the appropriate taxing authority to the extent not previously paid to such authorities by the paying party) the amount of such tax not previously paid by the payee to the appropriate taxing authority.

Article 8
INTELLECTUAL PROPERTY

8.1 **Ownership of Intellectual Property**.

8.1.1 **Inventorship**. Inventorship as between the Parties shall be determined in accordance with U.S. patent laws. All such determinations shall be documented to ensure any patent applications and patents reflect appropriate inventorship.

8.1.2 **Ownership of Intellectual Property**.

(a) Except as expressly set forth herein otherwise, as between the Parties, any and all Results and Know-How, whether patentable or not, conceived, discovered, invented or created in the course of performing the activities or exercising their rights under this Agreement solely by a Party or jointly by the Parties, their Affiliates, or Third Parties acting on its or their behalf, and all intellectual property rights inherent therein and appurtenant thereto, including all Patents, copyrights, trademarks, and trade secrets arising therefrom (collectively, "**Program Technology**") shall be owned in accordance with inventorship rules under U.S. patent law.

(b) Notwithstanding anything herein to the contrary, Metagenomi shall solely own all right, title and interest to any Program Technology [***] (collectively, "**Metagenomi Program Technology**"). Moderna hereby assigns, transfers and conveys to Metagenomi, or its designee, all of Moderna's worldwide right, title and interest in and to any and all Metagenomi Program Technology. Metagenomi agrees to grant and hereby grants Moderna and its Affiliates a perpetual, irrevocable, worldwide, royalty-free, sublicensable (through multiple tiers of sublicensees), transferable (solely in accordance with Section 14.7 (Assignment)), non-exclusive license, under all Metagenomi Program Technology to the extent pertaining to [***].

(c) Notwithstanding anything herein to the contrary, Moderna shall solely own all right, title and interest to any Program Technology [***] ("**Moderna Program Technology**"). Metagenomi hereby assigns, transfers and conveys to Moderna, or its designee, all of Metagenomi's worldwide right, title and interest in and to any and all Moderna Program Technology.

(d) Notwithstanding anything herein to the contrary, any Program Technology discovered, invented, conceived or created during the applicable Research Term that is neither Metagenomi Program Technology nor Moderna Program Technology shall be jointly owned by Moderna and Metagenomi ("**Joint IP**"). Each Party shall and hereby does assign to the other Party an undivided one-half interest in such first Party's right, title, and interest in and to all Joint IP made by or on behalf of such first Party. Subject to the licenses granted hereunder and the other terms and conditions of this Agreement, each Party may exercise its ownership rights in and to Joint IP, including the right to license and sublicense or otherwise to exploit, transfer or encumber its ownership interest, throughout the world, without an accounting or obligation (including paying royalties) to, or consent required from, the other Party. At the reasonable written request of a Party, the other Party shall take such further actions to confirm that no such accounting is required or to otherwise effect the foregoing regarding Joint IP. Each Party agrees to hold Joint IP (and any Know-How therein) in confidence subject to the same permitted disclosures set forth in Article 11 (Confidentiality) (applied *mutatis mutandis* to the Joint IP consistent with each Party's rights to exploit the Joint IP) and shall not disclose such Know-How to a Third Party unless under terms of confidentiality that preserve the Parties' ability to pursue Patents as set forth hereunder.

8.1.3 **Assignment Obligation**. Each Party shall cause all employees, independent contractors, consultants, and others who perform activities for such Party under this Agreement to be under an obligation to assign to such Party their rights in and to any Program Technology and all intellectual property rights therein, except where Applicable Laws requires otherwise and except in the case of governmental, not-for-profit and public institutions that have standard policies against such an assignment (in which case a Party shall obtain a suitable license, preferably exclusive, or right to obtain such a license). Each Party shall use reasonable efforts to promptly disclose to the other Party all Program Technology, including any invention disclosures, or other similar documents, submitted to it by its employees, agents or independent contractors describing such Program Technology, and all information relating to such Program Technology to the extent necessary or useful for the preparation, filing and maintenance of any Patent with respect to such Program Technology.

8.2 **Patent Prosecution and Maintenance**.

8.2.1 **Generally**. Subject to the remainder of this Section 8.2 (Patent Prosecution and Maintenance), each Party shall control the Prosecution and Maintenance of Patents that such Party Controls (other than Control obtained pursuant to a grant of rights under this Agreement).

8.2.2 **Patents Within Metagenomi's Background Technology**. As between the Parties, Metagenomi shall have the first right, but not the obligation, to Prosecute and Maintain any Patents within Metagenomi's Background Technology, at its sole expense. Metagenomi shall keep Moderna reasonably informed of the status of all Patents relevant to an applicable Program and shall promptly provide Moderna with all material correspondence received from any patent authority in connection therewith. In addition, Metagenomi shall provide Moderna with drafts of all proposed material filings and correspondence to any patent authority with respect to any such Patents for Moderna's review with reasonable time for Moderna to provide comments prior to the submission of such proposed filings and correspondences, and Metagenomi shall consider Moderna's reasonable comments in good faith. Notwithstanding anything herein to the contrary, in connection with such Prosecution and Maintenance, Metagenomi shall take all reasonable steps to ensure that such Patents Cover the applicable Products. Metagenomi shall notify Moderna of its intention to suspend or cease any Prosecution and Maintenance of any such Patents. Metagenomi shall provide such notice at least [***] prior to any filing or payment due date in connection with such Patents. In such event, Metagenomi shall permit Moderna, at Moderna's discretion and at its sole expense, to continue Prosecution and Maintenance of such Patents, subject to the foregoing information sharing obligation and review and comment rights applied *mutatis mutandis*. The Parties shall in good faith cooperate through the JPC (or as otherwise agreed in an applicable Working Group or by the Parties) to effect the foregoing.

8.2.3 **Program Patents Exclusively Licensed to Moderna**. As between the Parties, Moderna shall have the first right, but not the obligation, to Prosecute and Maintain any Program Patents licensed exclusively to Moderna by Metagenomi under this Agreement, and Moderna shall bear the cost of such Prosecution and Maintenance. [***].

8.2.4 **Joint Patents**. Subject to Section 8.2.3 (Program Patents Exclusively Licensed to Moderna), the JPC shall determine which Party has the first right, but not the obligation, to Prosecute and Maintain all Joint Patents. [***].

8.2.5 **Cooperation of the Parties**. Each Party shall cooperate fully with the other Party, through the JPC, in the Prosecution and Maintenance of Patents under this Section 8.2 (Patent Prosecution and Maintenance) at its own cost (except as expressly set forth otherwise in this Article 8 (Intellectual Property)), including by: (a) executing all papers and instruments, or requiring its employees or contractors, to execute such papers and instruments, to enable the other Party to apply for and to Prosecute and Maintain such Patents in any country as permitted by this Section 8.2 (Patent Prosecution and Maintenance) and (b) promptly informing the other Party of any matters coming to such Party's attention that may affect the Prosecution and Maintenance of any such Patents.

8.3 **Infringement by Third Parties**.

8.3.1 **Notice**. Each Party shall notify the other within [***] of becoming aware of any alleged or threatened infringement by a Third Party of any of the Program Patents or Patents within either Party's Background Technology, which infringing activity involves the using, making, importing, offering for sale or selling any (i) Product, any (ii) Biosimilar Product with respect thereto, or (iii) for each Collaboration Target, otherwise involving such Collaboration Target and Gene Editing in such Collaboration Target's respective field, i.e., in the DT Field or the RT Field, as applicable, in each case ((i) through (iii)) in the applicable DT Field or RT Field in the Territory, and any related declaratory judgment, opposition or similar action alleging the invalidity, unenforceability or non-infringement of any of the Program Patents or Patents within either Party's Background Technology (collectively "**Infringement**").

8.3.2 **Generally**. Subject to the remainder of this Section 8.3 (Infringement by Third Parties), each Party shall have the sole right to bring and control any legal action in connection with any Infringement of Patents claiming inventions that such Party Controls (other than Control obtained pursuant to a grant of rights under this Agreement).

8.3.3 **Patents Within Metagenomi's Background Technology**.

(a) As between the Parties, Moderna shall have the first right to bring and control any legal action in connection with any Infringement of any Patents within Metagenomi's Background Technology, where such Infringement relates to [***]. Moderna shall keep Metagenomi reasonably informed of the status of such enforcement efforts for such Patents. Metagenomi may, at its own expense, be represented in any such action by counsel of its own choice with respect to the enforcement of any such Patents. If Moderna does not bring such legal action within a commercially reasonable period of time (but not less than [***]) after the notice provided pursuant to Section 8.3.1 (Notice), Metagenomi may bring and control any legal action in connection with such Infringement of such Patents at its own expense as it reasonably determines appropriate so long as Moderna does not reasonably object to such action. In such case, Metagenomi shall keep Moderna reasonably informed of the status of such enforcement efforts for such Patents, and Moderna may, at its own expense, be represented in any such action by counsel of its own choice with respect to the enforcement of such Patents.

(b) As between the Parties, Metagenomi shall have the first right to bring and control any legal action in connection with any Infringement of any Patents within Metagenomi's Background Technology, where such Infringement relates to [***], in each case at Metagenomi's own expense (and, for clarity, whether or not such Infringement falls within the scope of any license granted to Metagenomi hereunder). Metagenomi shall keep Moderna reasonably informed of the status of such enforcement efforts for such Patents. Moderna may, at its own expense, be represented in any such action by counsel of its own choice with respect to the enforcement of any such Patents. If Metagenomi does not bring such legal action within a commercially reasonable period of time (but not less than [***]) after the notice provided pursuant to Section 8.3.1 (Notice), Moderna may bring and control any legal action in connection with such Infringement of such Patents at its own expense as it reasonably determines appropriate so long as Metagenomi does not reasonably object to such action. In such case, Moderna shall keep Metagenomi reasonably informed of the status of such enforcement efforts for such Patents, and Metagenomi may, at its own expense, be represented in any such action by counsel of its own choice with respect to the enforcement of such Patents.

8.3.4 **Program Patents Exclusively Licensed to Moderna**.

[***]

8.3.5 **Joint Patents**. Subject to Section 8.3.4 (Program Patents Exclusively Licensed to Moderna), the JPC shall determine which Party has the first right, but not the obligation, to bring and control any legal action in connection with any Infringement of any Joint Patents, subject to either Party electing to so enforce at the enforcing Party's sole expense. The enforcing Party shall keep the other Party reasonably informed of the status of such enforcement efforts for such Joint Patents and shall consider in good faith such other Party's comments thereon. The enforcing Party shall provide the other Party with drafts of all material papers to be filed with the court and shall in good faith incorporate all reasonable comments thereto by such other Party before filing such papers. The other Party may, at its own expense, be represented in any such action by counsel of its own choice. If the enforcing Party does not bring such legal action within a commercially reasonable period of time (but not less than [***]) after the notice provided pursuant to Section 8.3.1 (Notice), the other Party may bring and control any legal action in connection with such Infringement of any such Program Patents at its own expense as it reasonably determines appropriate.

8.3.6 **Biosimilar Applications**. Notwithstanding the foregoing provisions of this Section 8.3 (Infringement by Third Parties), if either Party or any of their Affiliates receives a copy of a Biosimilar Application naming a Product as a reference product or otherwise becomes aware that such a Biosimilar Application has been filed (such as in an instance described in Section 351(1)(9)(C) of the PHSA), such Party shall promptly notify the other Party. If either Party receives any equivalent or similar certification or notice in the U.S. or any other jurisdiction, either Party shall, promptly, notify and provide the other Party copies of such communication.

(a) For all Licensed Products, Moderna, and for all DT Co-Co Products, the Party designated by the JSC, (in either case, the "**Designated Party**") shall designate pursuant to Section 351(l)(1)(B)(ii) of the PHSA the outside counsel and in-house counsel who shall receive confidential access to the Biosimilar Application.

(b) The Designated Party shall have the right, after consulting with the other Party, to list any Program Patents or Patents within either Party's Background Technology, insofar as they meet the statutory requirements pursuant to Section 351(l)(1)(3)(A), Section 351(l)(5)(b)(i)(II), or Section 351(l)(7) of the PHSA, to respond to any communications with respect to such lists from the filer of the Biosimilar Application, and to negotiate with the filer of the Biosimilar Application as to whether to utilize a different mechanism for information exchange other than that specified in Section 351(l) of the PHSA.

(c) The Designated Party shall have the right, after consulting with the other Party, to identify Program Patents or Patents within either Party's Background Technology to list, or respond to relevant communications under any equivalent or similar listing to those described in the preceding Section 8.3.6(b) (Biosimilar Applications) in any other jurisdiction outside of the U.S. If required pursuant to Applicable Law, upon the Designated Party's request, the other Party shall assist in the preparation of such list and make such response after consulting with the Primary Party.

(d) The Parties recognize that procedures other than those set forth above in this Section 8.3.6 (Biosimilar Applications) may be applicable to Biosimilar Applications that are not governed by the PHSA. As a result, in the event that the Parties acting in good faith mutually determine that certain provisions of Applicable Laws in the U.S. or in any other country in the Territory are applicable to actions taken by the Parties with respect to Biosimilar Applications under this Section 8.3.6 (Biosimilar Applications) in such country, the Parties shall comply with any such Applicable Law in such country in exercising their rights and obligations with respect to Biosimilar Applications under this Section 8.3.6 (Biosimilar Applications).

8.3.7 **Enforcement Costs for Co-Co Products**. Except as expressly set forth herein, all Internal Costs and External Costs incurred by the Parties in connection with any suit or other action brought by a Party under this Section 8.3.7 (Enforcement Costs for Co-Co Products) with respect to any Infringement regarding a DT Co-Co Product in the Territory shall be considered "**Shared Patent Enforcement Costs**" that shall be shared [***] between the Parties as an Other Operating Expense in accordance with Section 7.4 (Co-Co Products Profit and Loss Share).

8.3.8 **Allocation of Recoveries for Co-Co Products**. Any recoveries resulting from enforcement action relating to a claim of Infringement regarding a DT Co-Co Product in the Territory, whether by settlement or judgment, shall be allocated as follows: [***].

8.3.9 **Allocation of Recoveries for Licensed Products**. Any recoveries resulting from enforcement action relating to a claim of Infringement regarding a Licensed Product, whether by settlement or judgment, shall [***].

8.3.10 **Allocation of Recoveries in All Other Infringements**. [***].

8.3.11 **Cooperation**. At the request and expense of the Party bringing an action under this Section 8.3 (Infringement by Third Parties), the other Party shall provide reasonable assistance in connection therewith, including by executing reasonably appropriate documents, cooperating in discovery and joining as a party to the action if required by Applicable Laws to pursue such action. In connection with any such enforcement action, the Party bringing the action shall not enter into any settlement admitting the invalidity or non-infringement of, or otherwise impairing the other Party's rights in the applicable Patents without the prior written consent of the other Party.

8.4 **Defense and Settlement of Third Party Claims**. Each Party shall promptly notify the other in writing of (a) any allegation by a Third Party that the activity of either of the Parties pursuant to this Agreement infringes or may infringe the intellectual property rights of such Third Party, including any inter partes review proceeding at the U.S. Patent and Trademark Office or foreign equivalent patent office (each a "**Third Party Claim**"), or (b) any declaratory judgment action that is brought naming either Party as a defendant and alleging invalidity of any of the Program Patents other than in response to an Infringement action under Section 8.3 (Infringement by Third Parties) (each a "**Third Party Patent Challenge**").

8.4.1 **Responsibility to Defend a Third Party Claim**. Each Party that is named as a defendant in a Third Party Claim proceeding shall have the right to defend itself in such proceeding. The other Party shall reasonably assist the defending Party in defending such proceeding and cooperate in any such litigation at the request and expense of the defending Party. The defending Party shall provide the other Party with prompt written notice of the commencement of any such proceeding and shall keep the other Party apprised of the progress of such proceeding and shall promptly furnish the other Party with a copy of each pleading, communication, or other document relating to the alleged infringement that is received by such Party and shall consider reasonable input from the other Party during the course of the proceeding. If the defending Party is Metagenomi, then Moderna shall be entitled to attend any substantive meetings, hearings, or other proceedings related to such claim (to the extent relevant, together with its own counsel, at its own expense). If the defending Party is Moderna, then Metagenomi shall be entitled to attend any substantive meetings, hearings, or other proceedings related to such claim (to the extent relevant, together with its own counsel, at its own expense). If both Parties are named as defendants in any such proceeding brought by a Third Party, both Parties may defend such proceeding and the Parties shall reasonably cooperate with respect to such defense.

8.4.2 **Right to Defend and Settle a Third Party Patent Challenge**. The prosecuting Party shall have the first right, but not the obligation, to control the defense of any Third Party Patent Challenge relating to any Patent for which it is the prosecuting Party and to compromise, litigate, settle, or otherwise dispose of any such challenge, provided that if the prosecuting Party notifies the non-prosecuting Party that it declines to exercise such first right, then the non-prosecuting Party shall have the right to control such defense and to compromise, litigate, settle or otherwise dispose of such challenge. The Party defending the Third Party Patent Challenge shall keep the other Party timely informed of the proceedings and filings, and provide the other Party with copies of all material communications, pertaining to each Third Party Patent Challenge. The Party defending the Third Party Patent Challenge shall not settle, stipulate to any facts, or make any admission with respect to any Third Party Patent Challenge without the other Party's prior written consent (not to be unreasonably withheld, conditioned or delayed) if such settlement, stipulation, or admission would (a) adversely affect the validity, enforceability or scope, or admit infringement, of any of the Program Patents; (b) give rise to liability of the other Party or its Affiliates; or (c) otherwise impair the other Party's or any of its Affiliates' rights in the Program Patents under this Agreement. Upon the defending Party's request, the other Party shall reasonably cooperate with the defending Party, to the extent necessary to defend the Third Party Patent Challenge.

8.4.3 **Costs, Damages, and Recoveries**.

(a) **Costs of Defending Patent Challenges**. Each Party shall bear its own Internal Costs related to any Third Party Patent Challenge, and each Party shall be responsible for [***] of the External Costs incurred with respect to any Third Party Patent Challenge of a Patent relating to a DT Co-Co Product in the Territory and such External Costs shall be considered "**Shared Patent Defense Costs**" that shall be shared [***] between the Parties as an Other Operating Expense in accordance with Section 7.4 (Co-Co Products Profit and Loss Share). The other Party shall reimburse the Party defending such Third Party Patent Challenge for its share of such External Costs pursuant to the preceding sentence either (i) through the Operating Profits or Losses reimbursement procedure set forth in Section 7.4 (Co-Co Products Profit and Loss Share) or (ii) within thirty (30) days of receiving the defending Party's invoice therefor, as applicable.

(b) **Licensed Products**. Subject to Article 10 (Indemnification), with respect to any Third Party Claim for allegedly infringing activities conducted with respect to a Licensed Product in the Territory, the Party against whom such claim was brought shall bear [***] of such cost, damages, or recovery.

(c) **Co-Co Products**. Subject to Article 10 (Indemnification), with respect to any Third Party Claim for allegedly infringing activities conducted with respect to a DT Co-Co Product in the Territory, (i) the Internal Costs and External Costs in defending and any damages paid by the defending Party shall be considered "**Shared Infringement Defense Costs**" that will be shared [***] between the Parties as an Other Operating Expense in accordance with Section 7.4 (Co-Co Products Profit and Loss Share) and (ii) any recoveries obtained shall be considered Net Sales of the DT Co-Co Product in the Territory, if applicable.

(d) **Other Damages and Recoveries**. Subject to Article 10 (Indemnification), with respect to any Third Party Claim other than claims described in Section 8.4.3(b) (Licensed Products) or Section 8.4.3(c) (Co-Co Products), the Party against whom such claim was brought shall bear [***] of such cost, damages, or recovery.

8.5 **Patent Extension**. [***].

8.6 **Unified Patent Court**. In the event that Unified Patent Court Agreement enters into force during the Term of this Agreement, the JPC shall be solely responsible for making all decisions regarding Patents, including decisions regarding the opting-out or opting-in of existing European Patents into the jurisdiction of the Unified Patent Court or the registration of European Patents with Unitary Effect.

8.7 **Common Interest**. All information exchanged between the Parties regarding the prosecution, maintenance, enforcement, and defense of Patents under this Article 8 (Intellectual Property) shall be the Confidential Information of the disclosing Party. In addition, the Parties acknowledge and agree that, with regard to such prosecution, maintenance, enforcement, and defense the interests of the Parties as collaborators and licensor and licensee are to obtain the strongest patent protection possible, and as such, are aligned and are legal in nature. The Parties agree and acknowledge that they have not waived, and nothing in this Agreement constitutes a waiver of, any legal privilege concerning the Patents under this Article 8 (Intellectual Property), including privilege under the common interest doctrine and similar or related doctrines. Notwithstanding anything to the contrary set forth in this Agreement, to the extent a Party has a good faith believe that any information required to be disclosed by such Party to the other Party under this Article 8 (Intellectual Property) is protected by attorney-client privilege or any other applicable legal privilege or immunity, such Party shall not be required to disclose such information and the Parties shall in good faith cooperate to agree upon a procedure (including entering into a specific common interest agreement, disclosing such information on a "for counsel eyes only" basis or similar procedure) under which such information may be disclosed without waiving or breaching such privilege or immunity.

8.8 **Trademarks**. Moderna shall have the right to select, and shall be free, in its sole discretion, to use and to register in any trademark office in the Territory, any Trademark for use with a Licensed Product. As between the Parties, Moderna shall own all right, title and interest in and to any such Trademarks adopted by Moderna for use with a Licensed Product, and is responsible for the registration, filing, maintenance and enforcement thereof.

Article 9
REPRESENTATIONS, WARRANTIES AND COVENANTS

9.1 **Mutual Representations and Warranties**. Each of Moderna and Metagenomi represent and warrant, as of the Effective Date, that:

9.1.1 it is duly organized and validly existing under in the Applicable Laws of the jurisdiction of its incorporation or formation, as applicable, has full corporate, limited liability company or other power and authority, as applicable, to enter into this Agreement and to carry out the provisions hereof, and has sufficient facilities, experienced personnel or other capabilities (including via Affiliates or Third Parties) to enable it to perform its obligations under this Agreement;

9.1.2 it is duly authorized to execute and deliver this Agreement and to perform its obligations hereunder, and the individual executing this Agreement on its behalf has been duly authorized to do so by all requisite corporate, limited liability company or other action, as applicable; and

9.1.3 this Agreement is legally binding upon it and enforceable in accordance with its terms (except as the enforceability thereof may be limited by bankruptcy, bank moratorium or similar laws affecting creditors' rights generally and laws restricting the availability of equitable remedies and may be subject to general principles of equity whether or not such enforceability is considered in a proceeding at law or in equity) and the execution, delivery and performance of this Agreement by it have been duly authorized by all necessary corporate action and do not and shall not: (a) conflict with, or constitute a default or result in a breach under, any agreement, instrument or understanding, oral or written, to which it is a party or by which it may be bound, or violate any Applicable Law; or (b) require any consent or approval of its stockholders or similar.

9.2 **Metagenomi Representations and Warranties**. Metagenomi represents and warrants to Moderna that, as of the Effective Date:

9.2.1 **No DT Co-Co Target or Reserved DT Targets Encumbered**. There are no DT Co-Co Target or Reserved DT Targets that are subject to an agreement between Metagenomi or any of its Affiliates and a Third Party of any kind or Metagenomi's (or its Affiliates') commitment to negotiate an agreement with a Third Party that would prevent, limit or conflict with the inclusion of the DT Co-Co Target or Reserved DT Targets under this Agreement on an exclusive basis or licenses granted herein.

9.2.2 **Metagenomi Not Developing Products Against RT Targets in the RT Field or DT Targets in the DT Field**. Metagenomi itself is not (and none of its Affiliates is) developing any products Directed Against or that work through, or are based on, and has granted no rights to any Third Party with respect to, any RT Target within the RT Field or any DT Target within the DT Field.

9.2.3 **No Grants That Conflict with This Agreement**. Metagenomi or its Affiliates have not granted, and shall not grant during the Term, any rights (or other encumbrances) to any Third Party to Metagenomi Licensed Collaboration Technology that would prevent, limit or conflict with the rights and licenses granted to Moderna hereunder.

9.2.4 **Control over Know-How and Patents**. Metagenomi has Control over all Know-How and Patent rights owned by it or its Affiliates as of the Effective Date that are necessary or reasonably useful for the Research, Development, Manufacturing (including formulation), Commercialization or other Exploitation of the DT Co-Co Products as known to be contemplated under this Agreement as of the Effective Date. To Metagenomi's knowledge, the Regents of the University of California ("**UC**") has no right and has no reason to claim any right in any such Know-How or Patent rights that would prevent, limit or conflict with the rights and licenses granted to Moderna hereunder.

9.2.5 **Existing Patents**.

(a) To Metagenomi's knowledge, all Patent rights contained in the Metagenomi Licensed Collaboration Technology existing as of the Effective Date that are issued or subject to a pending application for issuance (the "**Existing Patents**") are listed on **Schedule K** and all such Existing Patents are: (i) to the extent issued (unless otherwise indicated on **Schedule K** (Existing Patents)), subsisting and not invalid or unenforceable, in whole or in part; (ii) solely and exclusively owned by Metagenomi, free of any encumbrance, lien or claim of ownership by any Third Party; (iii) to the extent subject to a pending application for issuance, being diligently prosecuted in the respective patent offices in which such applications have been filed in accordance with Applicable Laws and Metagenomi and its Affiliates have presented all relevant references, documents and information to the relevant patent examiner at the relevant patent office; and (iv) filed and maintained properly and correctly, and no applicable fees applicable thereto when due and payable, as may be or have been extended, have gone unpaid.

(b) To Metagenomi's knowledge, neither Metagenomi nor any of its Affiliates have taken any action that would render any invention claimed in the Existing Patents unpatentable.

(c) The Existing Patents represent all Patents in the Metagenomi Licensed Collaboration Technology that relate to the DT Targets, the Products (anticipated as of the Effective Date), or the Exploitation thereof as of the Effective Date.

(d) To Metagenomi's knowledge, other than the rights granted under this Agreement, no rights or licenses are required under any Patent rights Covering Gene Editing to practice the Metagenomi Licensed Collaboration Technology as contemplated in the Program Plans as of the Effective Date, or to Research, Develop, Manufacture (including to formulate), Commercialize or otherwise Exploit the Products as contemplated herein by reason of the incorporation of Metagenomi Licensed Collaboration Technology in such Products.

(e) None of the Metagenomi Licensed Collaboration Technology is subject to any existing royalty or other payment obligations to any Third Party under any agreement or understanding entered into by Metagenomi or its Affiliates, and Metagenomi has no knowledge of any obligation to pay any royalties or other amounts to any Third Party by reason of Moderna's use thereof as contemplated under this Agreement.

(f) Metagenomi has not given any written notice to any Third Party asserting infringement by such Third Party of any of the Metagenomi Licensed Collaboration Technology and, to Metagenomi's knowledge, there is no unauthorized use, infringement or misappropriation of the Metagenomi Licensed Collaboration Technology.

9.2.6 **No Third Party Agreements**. There are no licenses, terms of use or other agreements or arrangements with Third Parties regarding any Metagenomi Licensed Collaboration Technology or other materials contemplated to be provided by Metagenomi to Moderna hereunder (or the Exploitation of any of the foregoing), to which Metagenomi or its Affiliate is a party or is otherwise bound, that are inconsistent with or diminish the rights and licenses granted to Moderna under this Agreement, or Metagenomi's own right to Exploit them pursuant to this Agreement. Without limiting the generality of the foregoing, none of the metagenomic data or sequence libraries used by Metagenomi to date is subject to any terms of use that are inconsistent with or diminish the rights and licenses granted to Moderna under this Agreement, or Metagenomi's own right to Exploit them pursuant to this Agreement.

9.2.7 **Litigation and Actions Relating to Intellectual Property**. Metagenomi or any of its Affiliates: (a) have not received any written notice of any threatened claims or litigation seeking to invalidate or otherwise challenge the Metagenomi Licensed Collaboration Technology, including any Patents within the Metagenomi Licensed Collaboration Technology, or Metagenomi's or its Affiliates' rights therein; and (b) are not aware of any pending or threatened action, suit, proceeding or claim by a Third Party asserting that Metagenomi or any of its Affiliates is infringing or has misappropriated or otherwise is violating any Patent right, trade secret or other proprietary right of any Third Party as would reasonably be expected to impair the ability of Metagenomi to fulfill any of its obligations under this Agreement.

9.2.8 **Other Material Claims and Actions**. There are no claims, actions or proceedings pending or, to Metagenomi's or any of its Affiliates' knowledge, threatened by any Third Party; nor, to Metagenomi's or any of its Affiliates' knowledge, are there any formal inquiries initiated or written notices received that may lead to the institution of any such legal proceedings, in each case (or in aggregate) against Metagenomi or its properties, assets or business, which if adversely decided, would, individually or in the aggregate, have a material adverse effect on, or prevent Metagenomi's ability to conduct the Research or to grant the licenses or rights granted to Moderna under this Agreement.

9.2.9 **No Government Funding**. The inventions claimed or Covered by the Patents within the Metagenomi Licensed Collaboration Technology: (a) were not conceived, discovered, developed or otherwise made in connection with any research activities funded, in whole or in part, by the federal government of the U.S. of America or any agency thereof; (b) are not a "subject invention" as that term is described in 35 U.S.C. § 201(e) and (c) are not otherwise subject to the provisions of the Patent and Trademark Law Amendments Act of 1980, as amended, codified at 35 U.S.C. §§ 200-212, as amended, as well as any regulations promulgated pursuant thereto, including in 37 C.F.R. Part 401.

9.2.10 **Regulatory Documentation**. To the extent that Metagenomi and its Affiliates have generated, prepared, maintained and retained any Regulatory Documentation under this Agreement that is required to be maintained or retained pursuant to and in accordance with, to the extent applicable, good laboratory and clinical practice and Applicable Laws, all such information is true, complete and correct in all material respects and what it purports to be.

9.2.11 **Data Protection and Data Privacy**. Metagenomi and its Affiliates' have complied with all Applicable Laws related to data protection and data privacy and has provided all legally required privacy notices to, and obtained appropriate consents, including research informed consents, from data subjects ("**Notices and Consents**"), and the Notices and Consents permit the use of the data as currently and previously used and processed by Metagenomi and shall permit the licensing and transfer of all such personal data of data subjects to Moderna as contemplated in this Agreement.

9.2.12 **Confidentiality**. Metagenomi and its Affiliates have used commercially reasonable efforts to protect the confidentiality of those parts of the Metagenomi Licensed Collaboration Technology that constitute confidential or proprietary information of Metagenomi.

9.3 **Moderna Representations and Warranties**. Moderna represents and warrants to Metagenomi that, as of the Effective Date:

9.3.1 **No Grants That Conflict with This Agreement**. Moderna or its Affiliates have not granted, and shall not grant during the Term, any rights (or other encumbrances) to any Third Party to Moderna Licensed Collaboration Technology that would prevent, limit or conflict with the rights and licenses granted to Metagenomi hereunder.

9.3.2 **Control over Know-How and Patents**. Moderna has Control over all Know-How and Patent rights owned by it or its Affiliates as of the Effective Date that are necessary or reasonably useful for the Research, Development, Manufacturing (including formulation), Commercialization or other Exploitation of the DT Co-Co Products as known to be contemplated under this Agreement as of the Effective Date.

9.3.3 **No Third Party Agreements**. There are no license or other agreements with Third Parties regarding the Exploitation of any Moderna Licensed Collaboration Technology or other materials contemplated to be provided by Moderna to Metagenomi hereunder, to which Moderna or its Affiliate is a party that is inconsistent with or diminishes the rights and licenses granted to Metagenomi under this Agreement.

9.3.4 **Litigation and Actions Relating to Intellectual Property**. Moderna or any of its Affiliates: (a) have not received any written notice of any threatened claims or litigation seeking to invalidate or otherwise challenge the Moderna Licensed Collaboration Technology, including any Patents within the Moderna Licensed Collaboration Technology, or Moderna's or its Affiliates' rights therein; and (b) are not aware of any pending or threatened action, suit, proceeding or claim by a Third Party asserting that Moderna or any of its Affiliates is infringing or has misappropriated or otherwise is violating any Patent right, trade secret or other proprietary right of any Third Party as would reasonably be expected to impair the ability of Moderna to fulfill any of its obligations under this Agreement.

9.3.5 **Other Material Claims and Actions**. There are no claims, actions or proceedings pending or, to Moderna's or any of its Affiliates' knowledge, threatened by any Third Party; nor, to Moderna's or any of its Affiliates' knowledge, are there any formal inquiries initiated or written notices received that may lead to the institution of any such legal proceedings, in each case (or in aggregate) against Moderna or its properties, assets or business, which if adversely decided, would, individually or in the aggregate, have a material adverse effect on, or prevent Moderna's ability to conduct the Research or to grant the licenses or rights granted to Metagenomi under this Agreement.

9.3.6 **No Government Funding**. The inventions claimed or Covered by the Patents within the Moderna Licensed Collaboration Technology: (a) were not conceived, discovered, developed or otherwise made in connection with any research activities funded, in whole or in part, by the federal government of the U.S. of America or any agency thereof; (b) are not a "subject invention" as that term is described in 35 U.S.C. § 201(e) and (c) are not otherwise subject to the provisions of the Patent and Trademark Law Amendments Act of 1980, as amended, codified at 35 U.S.C. §§ 200-212, as amended, as well as any regulations promulgated pursuant thereto, including in 37 C.F.R. Part 401.

9.3.7 **Regulatory Documentation**. To the extent that Moderna and its Affiliates have generated, prepared, maintained and retained any Regulatory Documentation under this Agreement that is required to be maintained or retained pursuant to and in accordance with, to the extent applicable, good laboratory and clinical practice and Applicable Laws, all such information is true, complete and correct in all material respects and what it purports to be.

9.3.8 **Data Protection and Data Privacy**. Moderna and its Affiliates' have complied with all Applicable Laws related to data protection and data privacy and has provided all legally required privacy notices to, and obtained appropriate consents, including research informed consents, from data subjects ("**Notices and Consents**"), and the Notices and Consents permit the use of the data as currently and previously used and processed by Moderna and shall permit the licensing and transfer of all such personal data of data subjects to Metagenomi as contemplated in this Agreement.

9.3.9 **Confidentiality**. Moderna and its Affiliates have used commercially reasonable efforts to protect the confidentiality of those parts of the Moderna Licensed Collaboration Technology that constitute confidential or proprietary information of Moderna.

9.4 **Covenants**.

9.4.1 **Employees, Consultants and Contractors**. Each Party represents, warrants and covenants that it and its Affiliates have obtained from each of its and their respective former and current employees, consultants and contractors, and shall obtain from each of its and their respective future employees, consultants and contractors, in each case who have conceived, discovered, invented or created or who may conceive, discover, invent or create any of such Party's Licensed Collaboration Technology, written agreements containing obligations of confidentiality and non-use and an assignment to such Party or its applicable Affiliates of all of such Person's rights to such Licensed Collaboration Technology such that no such employee, contractor or consultant shall retain any rights thereto that would prevent or conflict with the other Party's rights of ownership, license or use thereof or thereto, as the case may be, contemplated under this Agreement.

9.4.2 **Debarment**. Each Party represents, warrants and covenants to the other Party that neither it nor its officers, employees, agents, consultants or any other person used by such Party in the performance of the respective Research and Development activities under this Agreement is: (a) debarred or disqualified under the U.S. Federal Food, Drug and Cosmetic Act; (b) listed by any government or regulatory agencies as ineligible to participate in any government healthcare programs or government procurement or non-procurement programs (as that term is defined in 42 U.S.C. § 1320a-7b(f)), or excluded, debarred, suspended or otherwise made ineligible to participate in any such program; or (c) convicted of a criminal offense related to the provision of healthcare items or services, or is subject to any such pending action. Each Party shall not during the Term knowingly, employ or use, directly or indirectly, including through Affiliates the services of any such person. In the event that either Party becomes aware of the debarment or disqualification or threatened debarment or disqualification of any person providing services to such Party, directly or indirectly, including through Affiliates or, in the case of Moderna, Sublicensees, which directly or indirectly relate to activities contemplated under this Agreement, such Party shall promptly notify the other Party in writing and such Party shall cease employing, contracting with, or retaining any such person to perform any such services.

9.4.3 **The Regents of the University of California**. Metagenomi represents and warrants that none of the Metagenomi Licensed Collaboration Technology in existence as of the Effective Date is in-licensed from UC. In the event that Metagenomi in-licenses from UC any Know-How or Patent rights during the Term of this Agreement that Covers or otherwise relates to any Know-How conceived, discovered, invented or created, in each case as of the Effective Date, by any director, employee, consultant or contractor of Metagenomi as of the Effective Date in their capacity as employee, consultant, contractor or student of UC or during their course of employment, consulting, contractor, or student relationship with UC, Metagenomi hereby covenants that it and its Affiliates shall (i) assume all payment obligations under such in-licenses, notwithstanding anything else herein to the contrary, (ii) ensure that such in-licenses are fully sublicensable to Moderna, (iii) expressly make Moderna an intended third-party beneficiary to such in-licenses, and (iv) ensure that in the event of termination of such in-licenses, Moderna shall become a direct licensee of UC with respect to the Know-How and Patent rights in-licensed from UC to the extent Moderna has rights to such Know-How or Patent rights under this Agreement.

9.4.4 **Open Source Software**. Metagenomi represents, warrants and covenants that any deliverable that Metagenomi provides to Moderna and its Affiliates under this Agreement does not and will not include any open source, copyleft or community source code (including but not limited to any libraries or code, software, technologies or other materials that are licensed or distributed under any General Public License, Lesser General Public License or similar license arrangement or other distribution model described by the Open Source Initiative at www.opensource.org).

9.5 **Compliance**.

9.5.1 **Compliance with this Agreement**. Each of the Parties shall, and shall cause their respective Affiliates to, comply in all material respects with the terms of this Agreement.

9.5.2 **Compliance with Applicable Laws**. Each Party covenants to the other that in the performance of its obligations under this Agreement, such Party shall comply with, and shall cause its Affiliates and its and its Affiliates' employees and contractors to comply, with all Applicable Laws. No Party shall, or shall be required to, undertake any activity under or in connection with this Agreement which violates, or which it believes, in good faith, may violate, any Applicable Laws.

9.5.3 **Compliance with Party-Specific Regulations**. In carrying out their respective obligations under this Agreement, the Parties agree to cooperate with each other as may reasonably be required to help ensure that each is able to fully meet its obligations with respect to all judgments, decrees, orders or similar decisions issued by any Governmental Authority specific to a Party, and all consent decrees, corporate integrity agreements, or other agreements or undertakings of any kind by a Party with any Governmental Authority, in each case as the same may be in effect from time to time and applicable to a Party's activities contemplated under this Agreement (the "**Party-Specific Regulations**"). Neither Party shall be obligated to pursue any course of conduct that would result in such Party being in material breach of any Party-Specific Regulation applicable to it; provided that in the event that a Party refuses to fulfill its obligations under this Agreement in any material respect on such basis, the other Party shall have the right to terminate this Agreement in accordance with Section 12.2 (Termination for Material Breach or Insolvency or Patent Challenge) however, under such circumstances, such termination shall be the sole remedy for such terminating Party and such terminating Party shall not be entitled to any other remedy under law or equity. All Party-Specific Regulations are binding only in accordance with their terms and only upon the Party to which they relate.

9.5.4 **Compliance with Internal Compliance Codes**. All Internal Compliance Codes shall apply only to the Party to which they relate. The Parties agree to cooperate with each other to help ensure that each Party is able to comply with the substance of its respective Internal Compliance Codes and, to the extent practicable, each Party shall operate in a manner consistent with its Internal Compliance Codes applicable to its performance under this Agreement.

9.5.5 **Compliance with Anti-Corruption Laws**. In connection with this Agreement, the Parties shall comply with all applicable local, national, and international laws, regulations, and industry codes dealing with government procurement, conflicts of interest, corruption or bribery, including, if applicable, the U.S. Foreign Corrupt Practices Act of 1977, as amended, and any laws enacted to implement the Organisation of Economic Cooperation and Development Convention on Combating Bribery of Foreign Officials in International Business Transactions.

9.5.6 **Prohibited Conduct**. Without limiting the other obligations of the Parties set forth in this Section 9.5 (Compliance), each Party covenants to the other that, as of the Effective Date and in the performance of its obligations under this Agreement through the expiration or termination of this Agreement, such Party and, to its knowledge, its Affiliates and its and its Affiliates' employees and contractors, in connection with the performance of their respective

obligations under this Agreement, have not made, offered, given, promised to give, or authorized, and shall not make, offer, give, promise to give, or authorize, any bribe, kickback, payment or transfer of anything of value, directly or indirectly through Third Parties, to any Government Official for the purpose of: (a) improperly influencing any act or decision of the Person or Government Official; (b) inducing the Person or Government Official to do or omit to do an act in violation of a lawful or otherwise required duty; (c) securing any improper advantage; or (d) inducing the Person or Government Official to improperly influence the act or decision of any organization, including any government or government instrumentality, to assist any Party in obtaining or retaining business.

9.6 **Disclaimer**. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER PARTY MAKES ANY REPRESENTATIONS OR EXTENDS ANY WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY, QUALITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, OR VALIDITY OF PATENT CLAIMS. NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED AS A REPRESENTATION MADE OR WARRANTY GIVEN BY EITHER PARTY THAT EITHER PARTY SHALL BE SUCCESSFUL IN OBTAINING ANY PATENTS OR THAT ANY PATENTS SHALL ISSUE BASED ON A PENDING APPLICATION. WITHOUT LIMITING THE RESPECTIVE RIGHTS AND OBLIGATIONS OF THE PARTIES EXPRESSLY SET FORTH HEREIN, EACH PARTY SPECIFICALLY DISCLAIMS ANY GUARANTEE THAT THE PRODUCTS SHALL BE SUCCESSFUL, IN WHOLE OR IN PART.

Article 10
INDEMNIFICATION

10.1 **Indemnity**.

10.1.1 **By Metagenomi**. Subject to Section 10.1.3 (Procedure), Metagenomi shall defend, indemnify and hold harmless Moderna and its Affiliates, and their respective directors, officers, employees and agents (each, a "**Moderna Indemnitee**") from and against any and all costs, fees, expenses, losses, liabilities and damages, including reasonable legal expenses and attorneys' fees (collectively, "**Losses**") to which any Moderna Indemnitee may become subject as a result of any claim, demand, action or other proceeding by any Third Party (a "**Claim**") to the extent such Losses arise out of: (a) the gross negligence or willful misconduct of Metagenomi or its Affiliates in connection with its activities under this Agreement; or (b) the breach of this Agreement by Metagenomi or the breach of representations, warranties and covenants made hereunder by Metagenomi; except, in each case, to the extent such Losses result from (i) matters subject to clause (a) or (b) of Section 10.1.2 (By Moderna) or (ii) a Moderna Indemnitee's negligence.

10.1.2 **By Moderna**. Subject to Section 10.1.3 (Procedure), Moderna shall defend, indemnify and hold harmless Metagenomi, its Affiliates, and their respective directors, officers, employees and agents (each, an "**Metagenomi Indemnitee**") from and against any and all Losses to which any Metagenomi Indemnitee may become subject as a result of any Claim to the extent such Losses arise out of: (a) the gross negligence or willful misconduct of Moderna or its Affiliates in connection with its activities under this Agreement; or (b) the breach of this Agreement by Moderna or the breach of representations, warranties and covenants made hereunder by Moderna; except, in each case, to the extent such Losses result from (i) matters subject to clause (a) or (b) of Section 10.1.1 (By Metagenomi) or (ii) an Metagenomi Indemnitee's negligence.

10.1.3 **Procedure**. A Party that intends to claim indemnification under this Article 10 (Indemnification) (the "**Indemnitee**") shall promptly notify the Indemnitor (the "**Indemnitor**") in writing of any Claim in respect of which the Indemnitee intends to claim such indemnification. The failure to deliver written notice to the Indemnitor within a reasonable time after the commencement of any action with respect to a Claim shall only relieve the Indemnitor of its indemnification obligations under this Article 10 (Indemnification) if and to the extent the Indemnitor is actually and materially prejudiced thereby. The Indemnitor has sole control of the defense or settlement thereof. The Indemnitee shall cooperate fully with the Indemnitor and its legal representatives in the investigation of any action with respect to a Claim covered by this indemnification. The Indemnitee may participate at its expense in the Indemnitor's defense of and settlement negotiations for any Claim with counsel of the Indemnitee's own selection. The Indemnitor shall not settle any Claim without the prior written consent of the Indemnitee, not to be unreasonably withheld, conditioned or delayed. So long as the Indemnitor is actively defending the Claim in good faith, the Indemnitee shall not settle or compromise any such Claim without the prior written consent of the Indemnitor. If the Indemnitor does not assume and conduct the defense of the Claim as provided above: (a) the Indemnitee may defend against, consent to the entry of any judgment, or enter into any settlement with respect to such Claim in any manner the Indemnitee may deem reasonably appropriate (and the Indemnitee need not consult with, or obtain any consent from, the Indemnitor in connection therewith); and (b) the Indemnitor shall remain responsible to indemnify the Indemnitee as provided in this Article 10 (Indemnification).

10.2 **Losses in the Territory**. All Losses arising from any Third Party Claim relating to the Exploitation of a DT Co-Co Product in the Territory, including fees and disbursements to counsel, incurred by either Party in connection with the defense of any such Third Party Claim brought in the Territory, shall be shared [***] by the Parties as an Other Operating Expense in accordance with Section 7.4 (Co-Co Products Profit and Loss Share), provided that, such Other Operating Expenses shall not include Losses of a Party or its Affiliate to the extent such Losses are: (a) caused by a breach of this Agreement by such Party or Affiliate; or (b) caused by the negligence or willful misconduct of such Party or its Affiliate, and any such Losses described in clause (a) or (b) shall not be applied to the Operating Profit or Loss as Other Operating Expenses.

10.3 **Insurance**. During the Term, each Party shall maintain such types and amounts of liability insurance (including, with respect to Moderna, self-insurance) as is normal and customary in the industry generally for similarly situated parties and adequate to cover its obligations under this Agreement, and each Party shall, upon request, provide the other Party with a certificate of insurance in that regard, along with any amendments and revisions thereto.

Article 11
CONFIDENTIALITY

11.1 **Confidential Information**.

11.1.1 **Confidential Information**. In connection with this Agreement, a Party may disclose to the other Party certain confidential information of such disclosing Party (such confidential information, "**Confidential Information**"). For clarity, all Results in a Program and all records of each Party's activities in a Program constitute Confidential Information, provided, that (a) any confidential information initially disclosed by a Party that is to be solely owned by the other Party in accordance with this Agreement shall be the Confidential Information of such other Party (and the owning Party shall be deemed the disclosing Party, and the initially disclosing Party shall be deemed the receiving Party, with respect thereto and regardless of the Party initially disclosing the same), (b) any confidential information Controlled by Metagenomi or any of its Affiliates to the extent solely relating to (i) a DT Moderna Target in the DT Field, (ii) a RT Target that is selected in accordance with Section 3.9 (RT Option) in the RT Field, or (iii) an RT Candidate, a DT Moderna Candidate or a Licensed Product, or the Exploitation of any of the foregoing (i)-(iii), shall be deemed Confidential Information of Moderna (and Moderna the disclosing Party, and Metagenomi the receiving Party, with respect thereto and regardless of the Party initially disclosing the same), and (c) any confidential information Controlled by either Party or any of its Affiliates to the extent solely relating to the DT Co-Co Target in the DT Field, a DT Co-Co Candidate or a DT Co-Co Product or the Exploitation thereof shall be deemed Confidential Information of both Parties. Without limiting the foregoing, the terms of this Agreement are the Confidential Information of both Parties and shall be treated confidentially by each of the Parties, subject to the exceptions set forth in Section 11.1.6 (Disclosure of Agreement). Information exchanged by the Parties pursuant to the Mutual Confidentiality Agreement shall be governed by such Mutual Confidentiality Agreement; provided that any such information that is subsequently exchanged by the Parties under this Agreement shall, from that time, be governed by the terms of this Agreement. Notwithstanding anything herein to the contrary, Metagenomi shall not disclose any Results or Data Package to the extent related to the mRNA-LNP Technology without Moderna's prior written consent.

11.1.2 **Restrictions**. A Party (the "**Receiving Party**") that receives Confidential Information from the other Party (the "**Disclosing Party**") shall keep all the Disclosing Party's Confidential Information in confidence with the same degree of care with which the Receiving Party holds its own confidential information (but in no event less than a commercially reasonable degree of care). A Receiving Party shall not use the Disclosing Party's Confidential Information except in connection with the performance of its obligations and exercise of its rights under this Agreement.

11.1.3 **Exceptions**. The obligations of confidentiality and restriction on use of Confidential Information under Section 11.1.2 (Restrictions) do not apply to any information that the Receiving Party can prove by competent written evidence: (a) is now, or hereafter becomes, through no act or failure to act on the part of the Receiving Party, generally known or available to the public; (b) is known by the Receiving Party at the time of receiving such information, other than by previous disclosure of the Disclosing Party, or its Affiliates, employees, agents, consultants, or contractors; (c) is hereafter furnished to the Receiving Party without restriction by a Third Party who has no obligation of confidentiality or limitations on use with respect thereto, as a matter of right; or (d) is independently discovered or developed by the Receiving Party without the use of Confidential Information belonging to the Disclosing Party. Specific information shall not be deemed to be within any of the foregoing exclusions merely because it is embraced by more general information falling within those exclusions.

11.1.4 **Permitted Disclosures**. The Receiving Party may disclose Confidential Information belonging to the Disclosing Party as expressly permitted under this Agreement or if and to the extent such disclosure is reasonably necessary in the following instances:

(a) Prosecution and Maintenance of Patents as permitted under this Agreement;

(b) Regulatory Filings for Product that such Party has a license or right to develop hereunder in a given country or jurisdiction;

(c) prosecuting or defending litigation as permitted under this Agreement;

(d) made in response to a valid order of a court or other Governmental Authority or to comply with Applicable Laws (including securities laws); provided that the Receiving Party shall, to the extent permitted by Applicable Laws, first have given notice to the Disclosing Party and given the Disclosing Party a reasonable opportunity, at the Disclosing Party's expense, to quash such order or to obtain a protective order or seek confidential treatment; and provided further that the Confidential Information disclosed in response to such court or governmental order shall be limited to that information which is legally required to be disclosed in response to such court or governmental order or to comply with Applicable Laws;

(e) in response to a valid request by a U.S., state, foreign, provincial, or local tax authority, in which case either Party may disclose, a copy of this Agreement (including any Schedules, ancillary agreements and amendments hereto);

(f) disclosure to its and its Affiliates' employees, consultants, contractors and agents, and to Sublicensees, in each case on a need-to-know basis in connection with the Research, Development, making, having made, use, keeping, import, export, offering for sale, selling, or otherwise Exploiting of Products in the RT Field or DT Field (as applicable) in the Territory, and Commercialization of the Products in accordance with the terms of this Agreement, in each case under written obligations of confidentiality and non-use at least as stringent as those herein;

(g) to the extent otherwise necessary or reasonably useful for a Receiving Party to exploit the licenses granted to it under this Agreement; and

(h) disclosure to *bona fide* potential and actual investors, acquirers, and other financial partners solely for the purpose of evaluating or carrying out an actual or potential investment or acquisition, in each case under written obligations of confidentiality and non-use at least as stringent as those herein; provided that with respect to disclosure to actual or *bona fide* potential investors, such disclosure is under a written obligation of confidentiality that is consistent with market terms, including a shorter period of time during which such information must be held confidential.

Notwithstanding the foregoing, if a Party is required to make a disclosure of the other Party's Confidential Information pursuant to Section 11.1.4(c) or (d) (Permitted Disclosures), it shall, except where impracticable, give reasonable advance notice to the other Party of such disclosure and use efforts to secure confidential treatment of such Confidential Information at least as diligent as such Party would use to protect its own Confidential Information, but in no event less than reasonable efforts. Any information disclosed pursuant to Section 11.1.4(c) or (d) (Permitted Disclosures) remains Confidential Information and subject to the restrictions set forth in this Agreement, including the foregoing provisions of this Article 11 (Confidentiality).

11.1.5 **Public Domain Information and Residual Knowledge**. Nothing in this Agreement shall prevent a Party from using any Know-How that is in the public domain. Except to the extent a Party has granted exclusive or co-exclusive rights to the other Party under this Agreement (including as and to the extent such rights survive this Agreement), each Party grants to the other Party a non-exclusive license to use, outside the scope of this Agreement and for any purpose, any Know-How or Confidential Information shared in the performance of this Agreement by such Party solely to the extent such Know-How or Confidential Information has been retained (without intentional memorization) in intangible form in the minds of such Party's employees (or its Affiliates' employees) who have had access to such Know-How or Confidential Information pursuant to the terms of this Agreement and without reference to any tangible copies of such Know-How or Confidential Information; provided that this provision shall not be deemed in any event to provide any right to infringe the Patent rights of the other Party or of Third Parties that have licensed or provided materials to the other Party; provided, further, that a Party's use of such Know-How or Confidential Information is on an "as is, where is" basis, with all faults and all representations and warranties disclaimed and at such Party's sole risk.

11.1.6 **Disclosure of Agreement**. Notwithstanding the foregoing, either Party or its Affiliates may disclose the relevant terms of this Agreement: (a) to the extent required or advisable to comply with the rules and regulations promulgated by the U.S. Securities and Exchange Commission or any equivalent governmental agency in any country in the Territory, provided that such Party shall submit a confidential treatment request in connection with such disclosure and shall submit with such confidential treatment request only such redacted form of this Agreement as may be mutually agreed in writing by the Parties; (b) upon request from a Governmental Authority (such as a tax authority), provided the disclosing Party uses reasonable efforts to ensure the Governmental Authority maintains such terms as confidential; (c) to applicable licensors, solely to the extent necessary to comply with the terms of any Third Party license agreement, the rights under which are sublicensed to the other Party under this Agreement; and (d) to the extent necessary to perform obligations or exercise rights under this Agreement, to any Sublicensee, collaborator or potential Sublicensee or potential collaborator of such Party, provided that any Sublicensee, collaborator or potential Sublicensee or collaborator agree in writing to be bound by obligations of confidentiality and non-use no less protective of the Disclosing Party than those set forth in this Agreement.

11.1.7 **Survival**. Each Party's obligations under this Section 11.1 (Confidential Information) apply during the Term and continue for three (3) years thereafter with respect to Confidential Information.

11.2 **Publicity**. On November 2, 2021, the Parties shall issue a joint press release in the form attached hereto as **Schedule N** (Joint Press Release). Except as permitted under Section 11.1.4 (Permitted Disclosures) or Section 11.1.6 (Disclosure of Agreement), neither Party shall issue any press release or public statement disclosing information relating to this Agreement or the transactions contemplated hereby or the terms hereof without the prior written consent of the other Party; provided however, that neither Party shall be prevented from complying with any duty of disclosure it may have pursuant to Applicable Laws or pursuant to the rules of any recognized stock exchange or quotation system subject to the restrictions set forth in Sections 11.1.4 (Permitted Disclosures) and 11.1.5 (Public Domain Information and Residual Knowledge).

11.3 **Publication**. The following restrictions shall apply with respect to disclosure by any Party of Confidential Information in any publication or presentation with respect to the Programs, the Collaboration Targets, the Products or their testing:

11.3.1 both Parties acknowledge that it is their policy for the studies and results thereof to be registered and published in accordance with their internal guidelines; and

11.3.2 a Party ("**Publishing Party**") shall provide the other Party with a copy of any proposed material publication or presentation at least [***] (or [***] in the case of a manuscript) prior to submission for publication so as to provide such other Party with an opportunity to recommend any changes it reasonably believes are necessary to continue to maintain the Confidential Information disclosed by the other Party to the Publishing Party in accordance with the requirements of this Agreement. The incorporation of such recommended changes shall not be unreasonably refused; and if such other Party notifies ("**Publishing Notice**") the Publishing Party in writing, within such [***] period (or [***] period in the case of a manuscript) after receipt of the copy of the proposed publication, presentation, or manuscript, that such publication or presentation in its reasonable judgment (i) contains an invention, solely or jointly conceived or reduced to practice by the other Party, for which the other Party reasonably desires to obtain patent protection or (ii) could be expected to have a material adverse effect on the commercial value of any Confidential Information disclosed by the other Party to the Publishing Party, the Publishing Party shall prevent such publication or delay such publication for a mutually agreeable period of time. In the case of inventions, a delay shall be for a period reasonably sufficient to permit the timely preparation and filing of a patent application(s) on such invention, and in no event less than [***] from the date of the Publishing Notice.

Article 12
TERM & TERMINATION

12.1 **Term**. This Agreement commences on the Effective Date and, unless terminated earlier as provided in this Article 12 (Term and Termination), shall continue on a Program-by- Program basis as follows: (a) with respect to the RT Technology Research Program, until the end of the RT Research Term; (b) with respect to an RT Preclinical Research Program, (i) in the event no RT Option has been exercised within the RT Option Period for such RT Preclinical Research Program, until the expiration of the RT Option Period, or (ii) in the event an RT Option has been exercised within the applicable RT Option Period for such RT Preclinical Research Program, on a Licensed Product-by-Licensed Product and country-by-country basis, until the expiration of the applicable RT Royalty Term; (c) with respect to the DT Target Evaluation Program, until the end of the DT Moderna Research Term; (d) with respect to a DT Moderna Research Program, (i) in the event no DT Option has been exercised within the DT Option Period for such DT Moderna Research Program, until the expiration of the DT Option Period, or (ii) in the event a DT Option has been exercised within the applicable DT Option Period for such DT Moderna Research

Program, on a Licensed Product-by-Licensed Product and country-by-country basis, until the expiration of the applicable DT Moderna Royalty Term; and (e) with respect to the DT Co-Co Program, on a DT Co-Co Product-by-DT Co-Co Product and country-by-country basis, (i) in the event neither Party Opts-Out within the time allowed under Section 6.8.1 (Opt-Out Right), until neither Party (or its Affiliates, Sublicensees or assignees) continue to Commercialize such DT Co-Co Product in such country; or (ii) in the event either Party Opts-Out within the time allowed under Section 6.8.1 (Opt-Out Right), until the expiration of the applicable Opt-Out Royalty Term, provided that, in each case of (i) and (ii), in the event there is no DC Nomination in the DT Co-Co Program by the end of the Initial DT Co-Co Research Term, this Agreement will expire with respect to such DT Co-Co Program at the end of the Initial DT Co-Co Research Term, subject to the last paragraph of Section 6.3.1 (DT Co-Co Research Plan) (the "**Term**"). Upon the expiration of the Term with respect to (A) a Licensed Product in an RT Preclinical Research Program in a country in accordance with clause (b)(ii) of the immediately preceding sentence, the licenses granted to Moderna under Section 5.13 (License to Moderna Upon Exercise of the RT Option) with respect to such Licensed Product and such country shall survive and become perpetual, fully- paid and royalty-free; (B) a Licensed Product in a DT Moderna Research Program in a country in accordance with clause (c)(ii) of the immediately preceding sentence, the licenses granted to Moderna under Section 5.15 (License to Moderna Upon Exercise of the DT Option) with respect to such Licensed Product in such country shall survive and become perpetual, fully-paid and royalty-free; and (C) a DT Co-Co Product in the DT Co-Co Program in a country in accordance with clause (e)(ii) of the immediately preceding sentence, the licenses granted to the Primary Party under Section 5.5 (DT Co-Co Program License) with respect to such DT Co-Co Product in such country shall survive and become perpetual, fully-paid and royalty-free.

12.2 **Termination for Material Breach or Insolvency or Patent Challenge**.

12.2.1 **Material Breach**. On a Program-by-Program basis, subject to Section 12.2.2 (Disputes Regarding Material Breach), each Party (the "**Non-Breaching Party**") shall have the right to terminate this Agreement with respect to such Program upon written notice to the other Party (the "**Breaching Party**") if the Breaching Party materially breaches its obligations under this Agreement with respect to [***], after receiving written notice from the Non-Breaching Party identifying such material breach by the Breaching Party in reasonable detail, fails to cure such material breach within [***] from the date of such notice (or, if such breach cannot be cured within [***] from the date of such notice, if the Breaching Party has not commenced or is not diligently continuing in good faith efforts to cure such breach; provided that, in any event, such breach must be cured within [***] from the date of such notice) (such [***] period, the "**Cure Period**"). For the avoidance of doubt, (i) each Party has all rights and may seek all available remedies under Applicable Laws in the event of a breach of this Agreement by the other Party, regardless of whether such breach constitutes a material breach that could give rise to termination of this Agreement, and (ii) if a material breach giving rise to termination under this Section 12.2.1 (Material Breach) is specific to any one (1) or more Programs, then the Non-Breaching Party's right to terminate under this Section 12.2.1 (Material Breach) shall be limited to such affected Programs.

12.2.2 **Disputes Regarding Material Breach**. If the Parties reasonably and in good faith disagree as to whether there has been a material breach, then the Breaching Party that disputes whether there has been a material breach may contest the allegation in accordance with Article 13 (Governing Law; Dispute Resolution), and the applicable Cure Period shall be tolled upon the initiation of such dispute resolution procedures. If, as a result of such dispute resolution process, it is finally determined pursuant to Article 13 (Governing Law; Dispute Resolution) that the Breaching Party committed a material breach of this Agreement, then the applicable Cure Period shall resume and unless such alleged breach was cured during the pendency of such Cure Period (once resumed), this Agreement shall terminate effective as of the expiration of such Cure Period. This Agreement shall remain in full force and effect during the pendency of any such dispute resolution proceeding and all Cure Periods. Any such dispute resolution proceeding shall not suspend any obligations of either Party hereunder and each Party shall use reasonable efforts to mitigate any damages. Any payments that are made by one Party to the other Party pursuant to this Agreement pending resolution of the dispute shall be promptly refunded if it is determined pursuant to Article 13 (Governing Law; Dispute Resolution) that such payments are to be refunded by one Party to the other Party. If, as a result of such dispute resolution proceeding, it is determined that the Breaching Party did not commit such material breach (or such material breach was cured in accordance with Sections 12.2.1 (Material Breach) or 12.2.2 (Disputes Regarding Material Breach)), then no termination of this Agreement shall be effective, and this Agreement shall continue in full force and effect.

12.2.3 **Termination for Insolvency**. To the extent permitted by Applicable Laws, either Party may terminate this Agreement in its entirety upon providing written notice to the other Party on or after the time that such other Party files or institutes a bankruptcy, reorganization, liquidation, or receivership proceeding or upon the appointment of a receiver or trustee over all or substantially all property of the other Party, or upon an assignment of a substantial portion of the assets of the other Party for the benefit of creditors; provided that in the case of any involuntary bankruptcy proceeding, such right to terminate shall only become effective if the other Party consents to the involuntary bankruptcy or such proceeding is not dismissed within [***] after the filing thereof.

12.2.4 **Termination for Patent Challenge**. Metagenomi shall have the right, upon written notice to Moderna, to terminate this Agreement on a Program-by-Program basis if Moderna directly or indirectly (whether alone, or in concert with or for the benefit of any Third Party) challenges, opposes, seeks to invalidate or render void or unenforceable any Patent included within the Metagenomi Licensed Collaboration Technology in such Program, through a declaratory judgment, post grant review, inter partes review, or any other action or proceeding, except to the extent required by Applicable Law, court order or bona fide judicial process.

12.3 **Moderna Option to Continue in Lieu of Termination**.

12.3.1 **Payment Reductions in Lieu of Termination**. For a given RT Target or DT Moderna Target (and any related Program or Licensed Products), with respect to Metagenomi's material breach of any of its obligations under this Agreement with respect thereto as determined pursuant to Section 12.2.1 (Material Breach) (and after completion of the process set forth in Section 12.2.2 (Disputes Regarding Material Breach) if invoked), Moderna shall have the right, at its option and by written notice to Metagenomi, in lieu of exercising its right to terminate this Agreement with respect to such Collaboration Target under Section 12.2.1 (Material Breach), to instead continue this Agreement with respect to such Collaboration Target (and related Program and Licensed Products) in accordance with its terms, and in which case: (a) at Moderna's

option, the JSC will coordinate wind-down of Metagenomi's activities with respect to such RT Program or DT Program, and (b) from and after such time as Moderna delivers such written notice to Metagenomi, any and all amounts thereafter payable by Moderna for a Licensed Product applicable to such Collaboration Target hereunder (including Milestone Payments and royalties) shall be reduced by fifty percent (50%) (and for clarity, any floors on any such Milestone Payments and royalties hereunder will also be lowered by fifty percent (50%)). Notwithstanding the foregoing, Moderna's exercise of its rights under this Section 12.3.1 (Payment Reductions in Lieu of Termination) with respect to a Collaboration Target shall not affect the Parties' respective rights and obligations (including, without limitation, Milestone Payments and royalties) with respect to any other Collaboration Targets (or any related Program or Licensed Products).

12.3.2 **Profit-share Reduction in Lieu of Termination**. For a given DT Co-Co Target (and related Program and DT Co-Co Products), with respect to Metagenomi's material breach of any of its obligations under this Agreement with respect thereto as determined pursuant to Section 12.2.1 (Material Breach) (and after completion of the process set forth in Section 12.2.2 (Disputes Regarding Material Breach) if invoked), Moderna shall have the right, at its option and by written notice to Metagenomi, in lieu of exercising its right to terminate this Agreement with respect to such DT Co-Co Target under Section 12.2.1 (Material Breach), to instead continue this Agreement with respect to such DT Co-Co Target (and related Program and DT Co-Co Products) in accordance with its terms, and in which case, Moderna may elect, on a one time basis, by providing a written notice to Metagenomi, to seek to adjust the Profit and Loss Share for one or more DT Co-Co Products for such DT Co-Co Target in the Territory and, to fairly compensate Moderna for the damages arising from such material breach. Moderna will have the right to propose the adjustment, and the Parties will discuss in good faith, and if the Parties cannot mutually agree, then such adjustment shall be resolved pursuant to Section 13.3 (Arbitration). It is understood that such adjustment would provide Moderna with additional share of the net profits (but not more than 75% of the total net profits) for the DT Co-Co Products, to Moderna, for a period of time as may be appropriate and agreed by the Parties (or pursuant to Section 13.3 (Arbitration), as applicable). The profit adjustment may be, with respect to the DT Co-Co Target, on a country-by-country basis, or for the entire Territory, and the adjustment shall not apply to the sharing of any Development Costs. If Moderna so elects, then this Agreement shall continue to be in force with respect to such DT Co-Co Target (and related Program and DT Co-Co Products), provided that the foregoing shall not limit any other rights that Moderna may have under this Agreement with respect to Metagenomi's material breach, including to seek specific performances pursuant to Section 13.5 (Equitable Relief; Remedy for Breach of Exclusivity).

12.3.3 **Know-How Transfer**. Within thirty (30) days following Moderna's election not to terminate this Agreement under this Section 12.3 (Moderna Option to Continue in Lieu of Termination), Metagenomi shall disclose or deliver to Moderna, to the extent not previously provided, copies of all data and information in Metagenomi's (or its Affiliates') possession relating to the applicable Program which is reasonably necessary for Moderna's Research, Development or Commercialization of the applicable Products (including for regulatory purposes and to otherwise undertake Program activities that would otherwise have been performed by Metagenomi and regardless of the stage of any such activities). Upon Moderna's reasonable request, Metagenomi shall: (a) provide reasonable technical assistance to Moderna during such disclosure or delivery set forth in the preceding sentence; and (b) make its employees and nonemployee consultants reasonably available at their respective places of employment to consult with

Moderna on issues arising in the course of Moderna's Research, Development or Commercialization and in connection with any request related to a Product from any Regulatory Authority, including regulatory, scientific, technical and clinical testing issues. The Know-How transfer to be undertaken under this Section 12.3 (Moderna Option to Continue in Lieu of Termination) shall be overseen by a Working Group established for such purposes, which Working Group may put in place a technology transfer plan expressly identifying Know-How Controlled by Metagenomi or its Affiliates to be transferred and the timing for such transfer.

12.4 **Termination for Convenience by Moderna**. Moderna may, at any time in its sole discretion and without cause, terminate this Agreement with respect to an RT Program or a DT Program upon at least: (a) sixty (60) days' prior written notice to Metagenomi if a First Commercial Sale has not occurred for the Products in such Program; or (b) one hundred eighty (180) days' prior written notice to Metagenomi if a First Commercial Sale of a Product in such Program has occurred.

12.5 **Termination for Convenience by Primary Party**. Subject to the remainder of this Section 12.5 (Termination for Convenience by Primary Party), the Primary Party may, at any time in its sole discretion and without cause, terminate this Agreement with respect to the DT Co-Co Program upon at least [***] prior written notice to the Opt-Out Party. Upon receiving the written notice from the Primary Party, and within such [***] period, the Opt-Out Party may elect to opt into the DT Co-Co Program to continue the Development and Commercialization activities in the DT Co-Co Program in the Territory by providing written notice to the Primary Party of such election ("**Opt-In**," and such right to Opt-In, the "**Opt-In Right**"). The exercise by the Opt-Out Party of its Opt-In Right in accordance with the foregoing sentence shall become effective [***] after the delivery of the written notice to the Primary Party (the "**Opt-In Date**").

12.5.1 If the Opt-Out Party exercises its right to Opt-In with respect to the DT Co-Co Program pursuant to this Section 12.5 (Termination for Convenience by Primary Party), then (i) the DT Co-Co Program shall not terminate, (ii) from and after the Opt-In Date, all rights to lead or manage any of the activities conducted by the Primary Party as of the proposed date of termination set forth in its written notice to the Opt-Out Party under this Section 12.5 (Termination for Convenience by Primary Party) shall be assumed by, and assigned to, the Opt-Out Party, and (iii) the Opt-Out Party shall be referred to as the "**Opt-In Party**" hereafter in this Section 12.5 (Termination for Convenience by Primary Party).

12.5.2 Subject to Section 12.5.3 (Termination for Convenience by Primary Party), after the Opt-In Party exercises the Opt-In Right with respect to the DT Co-Co Program pursuant to this Section 12.5 (Termination for Convenience by Primary Party), (i) the license of the Licensed DT Co-Co Technology with respect to the DT Co-Co Program from the Opt-In Party to the Primary Party under Section 6.8.2 (Effects of Opt-Out) shall immediately terminate as of the Opt-In Date, and the license of the Licensed DT Co-Co Technology with respect to the DT Co-Co Program from the Primary Party to the Opt-In Party under Section 5.5 (DT Co-Co Program License) shall immediately become effective again and immediately become exclusive (subject to applicable Antitrust Filings and related government approvals or clearances, provided that the Parties shall reasonably cooperate with each other in connection with the Antitrust Filings); (ii) the Opt-In Party shall have sole authority and be solely responsible for all Development and Commercialization activities and related costs in the DT Co-Co Program, provided that in any event Moderna would

retain the decision-making power with respect to issues related to CMC Matters, Manufacturing, and the application of Moderna's technology to any of such activities; (iii) the Parties shall agree upon a written transition plan (an "**Opt-In Transition Plan**") setting forth all of the wind-down and other activities necessary or reasonably useful to transition all Development, Commercialization, and Medical Affairs activities, and any accompanying technology transfer activities (including the assignment of any applicable Data Packages), for clarity excluding any transfer of any consulting services with respect to the DT Co-Co Program (collectively, the "**Opt-In Transition Activities**"); (iv) each Party shall carry out the Opt-In Transition Activities assigned to it in the Opt-In Transition Plan and be responsible for its own costs with respect to such Opt-In Transition Activities; (v) the Primary Party shall assign and transfer (where applicable) to the Opt-In Party all Regulatory Documentations specific to all DT Co-Co Products in the DT Co-Co Program, and shall grant the Opt-In Party a right of reference to all other Regulatory Documentations with respect to such DT Co-Co Products necessary for the further Development and Commercialization thereof, in each case subject to Moderna retaining CMC-related components of such Regulatory Documentations and all other Moderna's Confidential Information related to CMC Matters, as set forth in the applicable Opt-In Transition Plan; and (vi) each Party shall submit to the applicable Regulatory Authority any filings, letters, and other Regulatory Filings and documentation necessary to effect such assignment and transfer as soon as practicable.

12.5.3 Notwithstanding the foregoing provisions of this Section 12.5 (Termination for Convenience by Primary Party), after Metagenomi exercises its Opt-In Right with respect to the DT Co-Co Program pursuant to this Section 12.5 (Termination for Convenience by Primary Party), (i) the license of the Metagenomi Licensed DT Co-Co Technology with respect to the DT Co-Co Program from Metagenomi to Moderna under Section 6.8.2(b) (Effects of Opt-Out) shall become co-exclusive but Moderna shall only practice its rights under the co-exclusively licensed Metagenomi Licensed DT Co-Co Technology to perform its obligations pursuant to Section 5.23 (Manufacture), and (ii) the license of the Moderna Licensed DT Co-Co Technology with respect to the DT Co-Co Program from Moderna to Metagenomi under Section 5.5 (DT Co-Co Program License) shall become effective again and immediately become non-exclusive after DC Nomination with respect to the DT Co-Co Product nominated in such DC Nomination, provided that (A) Metagenomi may only keep Exploiting Moderna Licensed DT Co-Co Technology being Exploited by Metagenomi as of Metagenomi's prior Opt-Out Date, and the Exploitation of any other Moderna Licensed DT Co-Co Technology shall be subject to Moderna's express prior written consent, and (B) Metagenomi may only Exploit mRNA-LNP Technology of Moderna or any of its Affiliates and not of any Third Party.

12.5.4 Notwithstanding anything herein to the contrary, in the event Moderna exercises its Opt-In Right pursuant to this Section 12.5 (Termination for Convenience by Primary Party), the JSC and its subcommittees, except to the extent required by the Opt-In Transition Plan to facilitate the Opt-In Transition Activities, shall immediately disband, for clarity, solely with respect to such DT Co-Co Program.

12.5.5 Notwithstanding anything herein to the contrary, in the event Metagenomi exercises its Opt-In Right pursuant to this Section 12.5 (Termination for Convenience by Primary Party), then Section 6.5.1(c) (CMC Matters) and Section 5.23 (Manufacture) shall remain in force. After Metagenomi has exercised such Opt-In Right, the Parties will use Commercially Reasonable Efforts to negotiate and enter a supply agreement and a quality agreement covering the supply of Candidates and Products for Research, Development, and Commercialization, as applicable, for such DT Co-Co Program.

12.5.6 Notwithstanding anything herein to the contrary, in the event Metagenomi exercises its Opt-In Right pursuant to this Section 12.5 (Termination for Convenience by Primary Party), if not previously prepared and filed, Moderna will, at Metagenomi's written request, prepare and file with Regulatory Authorities in jurisdictions where Metagenomi is seeking Regulatory Approval of a DT Co-Co Product, a DMF containing required CMC information for such DT Co-Co Product's Regulatory Approval. Metagenomi and its Affiliates may refer to such DMF in any Regulatory Filing made in connection with obtaining or maintaining a Regulatory Approval for such DT Co-Co Product. Moderna will, on written request by Metagenomi or its Affiliate, provide to such requesting party and to any specified Regulatory Authority a letter, in the form reasonably required by such requesting party, acknowledging that the requesting party has a right of reference to any such DMF. Notwithstanding that the foregoing provisions of this Section 12.5.6 (Termination for Convenience by Primary Party) provide the mechanism for Regulatory Authorities to have required access to Moderna's CMC information, in the event that the procedures set forth in the foregoing provisions of this Section 12.5.6 (Termination for Convenience by Primary Party) are not available in a particular country or are not sufficient to satisfy a Regulatory Authority's requirements, at Metagenomi's request, the Parties will discuss such requirements and use Commercially Reasonable Efforts to secure agreement from the Regulatory Authority for it to receive required access to all necessary CMC information directly from Moderna in a manner that minimizes the disclosure of such CMC information and protects the confidential and proprietary nature of such CMC information. Notwithstanding the foregoing provisions of this Section 12.5.6 (Termination for Convenience by Primary Party), Moderna shall have no obligation to comply with Metagenomi's or its Affiliates' written request that Moderna prepare and file a DMF with, or otherwise provide CMC information to, any Regulatory Authority in any jurisdiction with respect to which Moderna has a material concern regarding the protection of its intellectual property rights in connection with any Regulatory Filing or otherwise seeking or maintaining any Regulatory Approval in such jurisdiction, and upon written request by Moderna, Metagenomi shall, and shall cause its Affiliates and its and their Sublicensees to, refrain from preparing or submitting any Regulatory Filing, or otherwise obtaining or maintaining any Regulatory Approval, for any DT Co-Co Product in such jurisdictions.

12.6 **Effects of Termination**.

12.6.1 **Effects of termination generally**. Subject to the remainder of this Section 12.6 (Effects of Termination), upon termination of this Agreement with respect to a Program, with respect to Products within such Program, on a Product-by-Product basis:

(a) **Licenses**. All licenses granted hereunder with respect to such Product will terminate; provided *that* such licenses will continue as necessary for the Parties to complete the orderly wind-down of their activities under this Agreement in accordance with Applicable Law and as otherwise required in accordance with Section 12.6.1(b) (Wind Down). With the exception of such wind-down activities, each Party shall immediately cease and shall cause its Affiliates, Sublicensees and contractors, each as applicable, to immediately cease, all Research, Development, Manufacturing and Commercialization activities with respect to such Product.

(b) **Wind-Down**. Promptly following receipt by the applicable Party of a notice of termination under Section 12.2 (Termination for Material Breach or Insolvency or Patent Challenge) or Section 12.4 (Termination for Convenience by Moderna) or Section 12.5 (Termination for Convenience by Primary Party) if the Opt-Out Party does not exercise the Opt-In Right, the Parties will begin to wind-down their respective activities under this Agreement with respect to such Product. The Parties will establish an appropriate Working Group to coordinate such wind-down.

(c) **Destruction of Confidential Information**. Each Receiving Party shall destroy (at the Disclosing Party's written request) all such Confidential Information of the Receiving Party in its possession as of the effective date of expiration or termination (with the exception of one copy of such Confidential Information, which may be retained by the legal department of the Receiving Party to confirm compliance with the non-use and non-disclosure provisions of this Agreement), and any Confidential Information of the Disclosing Party contained in its laboratory notebooks or databases, provided that each Receiving Party may retain and continue to use such Confidential Information of the Disclosing Party to the extent necessary to exercise any surviving rights, licenses or obligations under this Agreement. Notwithstanding the foregoing, a Receiving Party shall not be required to destroy any computer files created during automatic system back up that are subsequently stored securely by it and not readily accessible to its employees, consultants, or others who received the Disclosing Party's Confidential Information under this Agreement.

12.6.2 **Reversion**. Upon termination of this Agreement with respect to a Program by Metagenomi under Section 12.2.1 (Material Breach), with respect to any Product within such Program impacted by Moderna's material breach (a "**Reversion Product**"), the following will occur:

(a) any licenses and rights granted by Metagenomi to Moderna with respect to the Reversion Product shall revert to Metagenomi, provided that such licenses and rights will continue as necessary as otherwise required under this Section 12.6.2 (Reversion);

(b) in the case the Reversion Product is a DT Co-Co Product, [***];

(c) effective on the effective date of termination for such Reversion Product, Moderna hereby assigns to Metagenomi or its designee all Regulatory Filings (except DMFs), Regulatory Approvals, Pricing and Reimbursement Approvals, copies of material correspondence and conversation logs, pre-clinical and clinical study reports, clinical study protocols, and all data (in the format in which is maintained by Moderna), in each case, that are related to the Reversion Product and Controlled by Moderna or its Affiliates as of the effective date of termination. Moderna shall take all steps necessary to transfer to Metagenomi or its designee ownership of all such assigned Regulatory Filings (except DMFs), Regulatory Approvals and Pricing and Reimbursement Approvals, including submitting to each applicable Regulatory Authority a letter or other necessary documentation (with a copy to Metagenomi) notifying such Regulatory Authority of the transfer of such ownership of each Regulatory Filing, Regulatory

Approval and Pricing and Reimbursement Approval. If it is not feasible under Applicable Laws for Moderna to transfer to Metagenomi any such Regulatory Filings, Regulatory Approvals, and Pricing and Reimbursement Approvals, Moderna shall hold such Regulatory Filings, Regulatory Approvals, and Pricing and Reimbursement Approvals in its name for the benefit of Metagenomi and shall grant, and hereby does grant to Metagenomi an exclusive, royalty-free license and right of reference to use such Regulatory Filings, Regulatory Approvals, and Pricing and Reimbursement Approvals in connection with Exploitation of the Reversion Product and authorize Metagenomi or its designee to conduct regulatory activities with appliable Regulatory Authorities relating to such Regulatory Filings, Regulatory Approvals, and Pricing and Reimbursement Approvals; and

(d) Moderna shall be entitled, during the [***] following the effective date of termination of this Agreement with respect to a Reversion Product, to finish any work-in-progress and to sell any inventory of such Reversion Product and shall pay Metagenomi the amounts applicable to such sales of such Reversion Product in accordance with the terms and conditions of this Agreement. Thereafter, Moderna shall cease selling any such Reversion Product, and Metagenomi shall have the right, in its sole discretion and upon written notification to Moderna, to purchase from Moderna any or all of the inventory of such Reversion Product held by Moderna as of the date of such notice at a price equal to Moderna's Manufacturing Costs for such Reversion Product.

12.6.3 **Conduct During Termination Notice Period**. Following any notice of termination permitted under this Article 12 (Term & Termination) other than any termination pursuant to Section 12.2.1 (Material Breach), during any applicable termination notice period (the applicable "**Termination Notice Period**"), each Party shall continue to perform all of its obligations under this Agreement then in effect in accordance with the terms and conditions of this Agreement. In such circumstances, each Party shall also continue to bear its share of all applicable costs incurred during the Termination Notice Period.

12.6.4 **Transition Agreement**. In connection with the termination of this Agreement, the Parties shall enter into a written agreement (the "**Transition Agreement**") that would include other reasonable terms and conditions, including terms allocating costs and expenses, describing the Parties' indemnification obligations, setting forth the Parties' obligations with respect to unauthorized sales, and setting forth other coordination obligations. If, despite such efforts, the Parties are unable to agree upon such terms and conditions within [***] from the effective date of the termination, either Party may refer the dispute for resolution by arbitration in accordance with Article 13 (Governing Law; Dispute Resolution), and the arbitrator shall have the authority to require the Parties to execute a Transition Agreement in the form approved by the arbitrator.

12.6.5 **Sublicense Survival**. Any permitted sublicense granted by a Party or its Affiliate to a Third Party under the licenses granted to such Party under this Agreement shall survive the termination of this Agreement; provided that, in the case where termination of this Agreement for such Party's uncured material breach pursuant to Section 12.2.1 (Material Breach), such Sublicensee did not cause such uncured material breach. If permitted under such a surviving sublicense, effective upon termination of this Agreement, such sublicense shall become a direct license from Metagenomi to such Sublicensee.

12.7 **Survival**. Expiration or termination of this Agreement shall not relieve the Parties of any obligation or right accruing prior to such expiration or termination. Except as set forth below or elsewhere in this Agreement, the obligations and rights of the Parties under the following provisions of this Agreement shall survive expiration or termination of this Agreement: Article 1 (Definitions) (to the extent the definitions are used in surviving provisions); Sections 3.7.1 (Records), 3.7.3 (Ownership; Confidentiality), 4.8.1 (Records), and 4.8.3 (Ownership; Confidentiality); the second and third last sentences of Section 5.18 (Collaboration Materials Transfer); Sections 5.19 (No Other Rights and Retained Rights), 5.25 (Payments); 7.6 (Accounting; Audit), 7.7 (Disputed Payments), 7.13(Method of Payment; Foreign Exchange), 7.14 (Records and Audits), 7.15 (Default Interest), 7.16 (Taxes), 8.1 (Ownership of Intellectual Property), 8.2.1 (Generally), 8.3.2 (Generally), 8.7 (Common Interest), 8.8 (Trademarks), and 9.6 (Disclaimer); Articles 10 (Indemnification) and 11 (Confidentiality); Sections 12.6 (Effects of Termination), 12.7 (Survival), and 12.8 (Bankruptcy Code); Article 13 (Governing Law; Dispute Resolution); and Sections 14.1 (Entire Agreement; Amendment), 14.2 (Limitation of Liability), 14.3 (Independent Contractors), 14.4 (Notices), 14.5 (Severability), 14.6 (Non-Use of Names), 14.13 (Waivers), 14.15 (Interpretation), 14.18 (No Third Party Beneficiary Rights), 14.19 (Construction), 14.20 (Cumulative Remedies), 14.21 (Extension to Affiliates), and 14.22 (Other Activities).

12.8 **Bankruptcy Code**. If this Agreement is rejected by a Party as a debtor under Section 365 of the U.S. Bankruptcy Code or similar provision in the bankruptcy laws of another jurisdiction (the "**Code**"), then, notwithstanding anything else in this Agreement to the contrary, all licenses and rights to licenses granted under or pursuant to this Agreement by the Party in bankruptcy to the other Party are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the Code (or similar provision in the bankruptcy laws of the jurisdiction), licenses of rights to "intellectual property" as defined under Section 101(35A) of the Code (or similar provision in the bankruptcy laws of another applicable jurisdiction). The Parties agree that a Party that is a licensee of rights under this Agreement shall retain and may fully exercise all of its rights and elections under the Code, and that upon commencement of a bankruptcy proceeding by or against a Party under the Code, the other Party shall be entitled to a complete duplicate of, or complete access to (as such other Party deems appropriate), any such intellectual property and all embodiments of such intellectual property, if not already in such other Party's possession, shall be promptly delivered to such other Party: (a) upon any such commencement of a bankruptcy proceeding upon written request therefor by such other Party, unless the bankrupt Party elects to continue to perform all of its obligations under this Agreement; or (b) if not delivered under the foregoing clause (a), upon the rejection of this Agreement by or on behalf of the bankrupt Party upon written request therefor by the other Party. The foregoing provisions of this Section 12.8 (Bankruptcy Code) are without prejudice to any rights a Party may have arising under the Code.

Article 13
GOVERNING LAW; DISPUTE RESOLUTION

13.1 **Governing Laws**. This Agreement is governed by and shall be construed in accordance with the laws of the State of New York, without reference to its conflict of laws principles. The United Nations Convention of International Contracts on the Sale of Goods (the Vienna Convention) does not apply to this Agreement.

13.2 **Disputes**. The Parties recognize that controversies or claims arising out of, relating to, or in connection with this Agreement may arise from time to time. It is the objective of the Parties to establish procedures to facilitate the resolution of disputes in an expedient manner by mutual cooperation and without resort to litigation. To accomplish this objective, the Parties shall follow the procedures set forth in this Article 13 (Governing Law; Dispute Resolution) to resolve any dispute. If any dispute, claim or controversy of any nature arising out of or relating to this Agreement, including any action or claim based on tort, contract or statute, or concerning the interpretation, effect, termination, validity, performance or breach of this Agreement (each, a "**Dispute**"), arises between the Parties, either Party may refer the Dispute to Executive Officers of each Party for resolution within [***] of a written request by either Party to the other Party. Each Party, within [***] after a Party has received such written request from the other Party to so refer such Dispute, shall notify the other Party in writing of the Executive Officer to whom such Dispute is referred. If, after an additional [***] after the notice of Dispute, such Executive Officers have not succeeded in negotiating a resolution of the Dispute, and a Party wishes to pursue the matter, each such Dispute, controversy or claim that is not an "Excluded Claim" (defined in Section 13.6 (Excluded Claims)) shall be submitted for binding arbitration administered by the International Chamber of Commerce ("**ICC**") pursuant to its Arbitration Rules in effect at the time such Dispute arises (the "**ICC Arbitration Rules**"). The option to arbitrate under this Article 13 (Governing Law; Dispute Resolution) shall extend to any claims by or against the Parties and their respective Affiliates and any agents, principals, officers, directors, or employees of either of the Parties or their respective Affiliates.

13.3 **Arbitration**. Any arbitration that the Parties decide to pursue shall be conducted by a single neutral arbitrator experienced in the business of pharmaceuticals. If the issues in dispute involve scientific, technical or commercial matters, the arbitrator chosen hereunder may engage experts that have educational training or industry experience sufficient to demonstrate a reasonable level of relevant scientific, medical and industry knowledge, as necessary to help resolve the dispute. The Parties shall select the arbitrator promptly following the initiation of the arbitration. If the Parties are unable or fail to agree upon the arbitrator within [***] following the initiation of arbitration, the arbitrator shall be appointed by ICC. The arbitration shall be conducted in New York, New York, and all proceedings and communications shall be in English. Except to the extent necessary to enforce a legal right or as may be required by law, neither a Party nor an arbitrator may disclose the existence, content, or results of an arbitration without the prior written consent of both Parties. Each Party shall bear its own costs and expenses and attorneys' fees and an equal share of the arbitrator's fees and any administrative fees of arbitration. Any arbitration findings or rulings made under this Section 13.3 (Arbitration) shall be final and binding on the Parties.

13.4 **Baseball Arbitration**. Any Disputes over any amounts invoiced under this Agreement, Disputes over matters set forth in Sections 2.10.2 (Decision-making for DT Co-Co Plans), 5.10.3(b) (Payments under Co-Co Moderna In-License Agreements), 5.10.4(b) (Payments under Co-Co Metagenomi In-License Agreements) and 12.6.2(b) (Reversion), shall be submitted to and finally resolved by the following provisions in this Section 13.4 (Baseball Arbitration). The Parties shall promptly designate in writing a single mutually acceptable arbitrator experienced in the licensing, development, and commercialization of pharmaceutical products, who is independent of each Party (i.e., not a current or former employee, consultant, officer, or director or current stockholder of either Party or their respective Affiliates and who does not otherwise have any current or previous business relationship with either Party or their respective Affiliates). If the Parties cannot agree on an arbitrator within [***] after referral of such matter, the arbitrator shall be selected by the President of Greater Boston Chamber of Commerce. The arbitration shall

be conducted in accordance with the ICC Arbitration Rules to the extent consistent with this Section 13.4 (Baseball Arbitration). Within [***] of the arbitrator's appointment, each Party shall prepare and deliver to both the arbitrator and the other Party its last, best offer for the applicable unresolved terms and a memorandum in support thereof. The Parties shall also provide the arbitrator with a copy of the relevant provisions of this Agreement. Each Party may submit to the arbitrator (with a copy to the other Party) a rebuttal to the other Party's support memorandum and shall at such time have the opportunity to amend its last such offer based on any new information contained in the other Party's support memorandum. Within [***] after the arbitrator's appointment, the arbitrator shall select from the two (2) proposals provided by the Parties the proposal such arbitrator believes is the most consistent with the intent of the Parties when this Agreement was entered into provided the arbitrator may not alter the terms of this Agreement. The decision of the arbitrator shall be final and binding on the Parties. The foregoing "baseball-style" arbitration shall be the exclusive remedy of either Party if the Parties cannot agree on any Disputes over any amounts invoiced under this Agreement, or Disputes over matters set forth in Sections 2.10.2 (Decision-making for DT Co-Co Plans), 5.10.3(b) (Payments under Co-Co Moderna In-License Agreements), 5.10.4(b) (Payments under Co-Co Metagenomi In-License Agreements) and 12.6.2(b) (Reversion).

13.5 **Equitable Relief; Remedy for Breach of Exclusivity**. Nothing in this Article 13 (Governing Law; Dispute Resolution) shall preclude either Party from seeking equitable relief or interim or provisional relief from a court of competent jurisdiction, including a temporary restraining order, preliminary injunction or other interim equitable relief, concerning a dispute either prior to or during any arbitration if necessary to protect the interests of such Party or to preserve the status quo pending the arbitration proceeding. Therefore, in addition to its rights and remedies otherwise available at law, including the recovery of damages for breach of this Agreement, such Non-Breaching Party shall be entitled to seek (a) equitable relief, specifically including, but not limited to, both interim and permanent restraining orders and injunctions and (b) such other and further equitable relief as the court may deem proper under the circumstances. Any final judgment resolving a Dispute may be enforced by either Party in any court having appropriate jurisdiction. For the avoidance of doubt, nothing in this Section 13.5 (Equitable Relief; Remedy for Breach of Exclusivity) shall otherwise limit a Breaching Party's opportunity to cure a material breach as permitted in accordance with Section 12.2.1 (Material Breach).

13.6 **Excluded Claims**. As used in this Article 13 (Governing Law; Dispute Resolution), the term "**Excluded Claim**" means any dispute, controversy or claim that concerns: (a) the validity, enforceability or infringement of any patent, trademark or copyright; or (b) any antitrust, antimonopoly or competition law or regulation, whether or not statutory. Any Excluded Claim may be submitted by either Party to any court of competent jurisdiction over such Excluded Claim.

Article 14
MISCELLANEOUS

14.1 **Entire Agreement; Amendment**. This Agreement, including the Schedules hereto, sets forth the complete, final and exclusive agreement and all the covenants, promises, agreements, warranties, representations, conditions and understandings between the Parties hereto along with the Convertible Note Instruments, with respect to the subject matter hereof and supersedes, as of the Effective Date, all prior and contemporaneous agreements and

understandings between the Parties with respect to the subject matter hereof, including the Mutual Confidentiality Agreement. The Parties hereby agree to terminate the Mutual Confidentiality Agreement as of the Effective Date, and that all confidential information that was disclosed by the Parties pursuant to the Mutual Confidentiality Agreement shall be deemed Confidential Information disclosed under, and subject to, the terms and conditions of this Agreement. The foregoing may not be interpreted as a waiver of any remedies available to either Party as a result of any breach, prior to the Effective Date, by the other Party of its obligations under the Mutual Confidentiality Agreement. No subsequent alteration, amendment, change or addition to this Agreement shall be binding upon the Parties unless reduced to writing and signed by an authorized officer of each Party.

14.2 **Limitation of Liability**. TO THE EXTENT PERMITTED BY APPLICABLE LAW, NEITHER PARTY MAY RECOVER FROM THE OTHER PARTY ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES IN CONNECTION WITH THIS AGREEMENT, REGARDLESS OF ANY NOTICE OF THE POSSIBILITY OF SUCH DAMAGES; PROVIDED, HOWEVER, THAT THIS SECTION 14.2 (LIMITATION OF LIABILITY) SHALL NOT BE CONSTRUED TO LIMIT EITHER PARTY'S INDEMNIFICATION OBLIGATIONS UNDER ARTICLE 10 (INDEMNIFICATION), METAGENOMI'S LIABILITY IN CONNECTION WITH A BREACH OF ITS EXCLUSIVITY OBLIGATIONS UNDER SECTIONS 5.20 (RT EXCLUSIVITY), 5.21 (DT EXCLUSIVITY) OR 5.22 (DT CO-CO TARGET EXCLUSIVITY), MODERNA'S LIABILITY IN CONNECTION WITH A BREACH OF ITS EXCLUSIVITY OBLIGATIONS UNDER SECTION 5.22 (DT COCO TARGET EXCLUSIVITY), OR EITHER PARTY FROM ITS LIABILITY FOR ANY DAMAGES BASED UPON SUCH PARTY'S BREACH OF ITS OBLIGATIONS UNDER ARTICLE 11 (CONFIDENTIALITY).

14.3 **Independent Contractors**. The relationship between Moderna and Metagenomi created under this Agreement is solely that of independent contractors. This Agreement does not create any agency, distributorship, employee-employer, partnership, joint venture or similar business relationship between the Parties. Neither Party is a legal representative of the other Party, and neither Party can assume or create any obligation, representation, warranty, or guarantee, express or implied, on behalf of the other Party.

14.4 **Notice**. Any notice required or permitted to be given under this Agreement must be in writing, in English. Any and all notices or other communications or deliveries required or permitted to be provided hereunder must be in writing and shall be deemed given and effective if: (a) delivered by hand or by overnight courier with tracking capabilities; (b) mailed postage prepaid by first class, registered, or certified mail; or (c) delivered by facsimile or electronic mail followed by delivery via either of the methods set forth in clauses (a) and (b) of this Section 14.4 (Notice), in each case, addressed as set forth below unless changed by notice so given:

If to Metagenomi: Metagenomi, Inc.
1545 Park Avenue
Emeryville, CA 94608
Attn: Jian Irish
E-mail:

with a copy (which shall not constitute notice) to:

Metagenomi, Inc.
1545 Park Avenue,
Emeryville, CA 94608
Attn: Legal Department
E-mail:

If to Moderna: ModernaTX, Inc.
200 Technology Square
Cambridge, MA 02139
Attn: General Counsel
E-mail:

with a copy (which shall not constitute notice) to:

ModernaTX, Inc.
200 Technology Square
Cambridge, MA 02139
Attn: Shaun Ryan
E-mail:

Each Party shall also provide a copy of any notice (via e-mail if available) to the other Party's Alliance Manager.

14.5 **Severability**. If, for any reason, any part of this Agreement is adjudicated invalid, unenforceable, or illegal by a court of competent jurisdiction, such adjudication shall not, to the extent feasible, affect or impair, in whole or in part, the validity, enforceability, or legality of any remaining portions of this Agreement. All remaining portions shall remain in full force and effect.

14.6 **Non-Use of Names**. Metagenomi shall not use the name, trademark, logo, or physical likeness of Moderna or its respective officers, directors or employees, or any adaptation of any of them, in any advertising, promotional or sales literature, without Moderna's prior written consent. Metagenomi shall require its Affiliates to comply with the foregoing. Moderna shall not use the name, trademark, logo, or physical likeness of Metagenomi or its officers, directors or employees, or any adaptation of any of them, in any advertising, promotional or sales literature, without Metagenomi's prior written consent. Moderna shall require its Affiliates and Sublicensees to comply with the foregoing.

14.7 **Assignment**. Neither Party may assign or transfer this Agreement or any rights or obligations hereunder without the prior written consent of the other, except that a Party may make such an assignment or transfer without the other Party's consent to: (a) its Affiliate, provided that such Party shall remain primarily liable for any acts or omissions of such Affiliate; or (b) to an Acquirer in connection with a Change of Control, subject to Section 14.9 (Metagenomi Change of Control). Any permitted assignee shall, in writing to the non-assigning Party, expressly assume performance of such assigning Party's rights and obligations. Any permitted assignment is binding on the successors of the assigning Party. Any assignment or attempted assignment by either Party in violation of the terms of this Section 14.7 (Assignment) is null, void and of no legal effect.

14.8 **Acquisition of Existing Competing Programs**. If, after the Effective Date, any Third Party becomes an Affiliate of a Party that such Party controls (as such term is defined in the definition of "Affiliate", and for clarity, excluding a New Affiliate) as a result of a merger, acquisition, consolidation, asset sale, or other similar transaction (whether in a single transaction or series of related transactions), and, as of the closing date of such transaction, such Third Party is engaged in (a) the Development or Commercialization of any compound or product; or (b) the licensing, conveyance, sublicensing or other grant of rights in Patents or Know-How with respect to such any compound or product, in each case of (a) and (b) that would, if conducted by such Party, cause such Party to breach its exclusivity obligations set forth in Section 5.20 (RT Exclusivity), Section 5.21 (DT Exclusivity), Section 5.22 (DT Co-Co Target Exclusivity) (any such activities in (a) and (b), a "**Competing Program**"), then continuation of the relevant Competing Program shall not be a breach of this Agreement provided that such Party provides the other Party with written notice of such transaction promptly, but no later than [***] following the earlier of the first public announcement of such transaction or the execution of a definitive agreement relating to such transaction (if such disclosure is not prohibited under Applicable Laws), and such Party does (or causes such Affiliate to), within [***] after the closing of such transaction, with mutual agreement with the other Party, either: (i) complete a Divestiture of such Competing Program; (ii) cease and terminate the Competing Program, subject to any commercially reasonable wind-down provisions, including with respect to Clinical Trials; or (iii) offer to include the Competing Program into this Agreement; provided that the actions in clauses (i) – (iii) will not have to occur if such Third Party has pre-existing license or contractual obligation that would prohibit the Third Party from taking the actions in clauses (i) – (iii).

14.9 **Metagenomi Change of Control**.

14.9.1 **Notification of Change of Control**. If Metagenomi undergoes a Change of Control at any time before expiry of the Research Term, Metagenomi shall provide Moderna with written notice of such Change of Control of Metagenomi promptly, but no later than [***] following the earlier of the first public announcement of such Change of Control or the execution of a definitive agreement relating to such Change of Control (if such disclosure is not prohibited under Applicable Law or by the terms of any written agreement between Metagenomi and any Third Party), which notice shall describe in reasonable detail the nature of the transaction and the identity of the Acquirer (a "**Change of Control Notice**"). If Metagenomi undergoes such a Change of Control, then Section 14.9.2 (Effects of Change of Control) shall apply. For the avoidance of doubt, a Change of Control of Metagenomi shall not in any way limit or alter Moderna's rights in accordance with Section 12.3 (Moderna Option to Continue in Lieu of Termination).

14.9.2 **Effects of Change of Control**. On a Program-by-Program basis, following a Change of Control of Metagenomi at any time before expiry of the Research Term for such Program, Moderna may elect, at its sole discretion, whether the Research Transfer Scenario (in subsection (a) below) or the Research Continuance Scenario (in subsection (b) below) shall apply to such Change of Control.

(a) **Research Transfer Scenario**. The "**Research Transfer Scenario**" means that Metagenomi shall, on a Program-by-Program basis, transfer to Moderna all ongoing Research and Development activities (including the data and results for such Program), if any, being conducted by or on behalf of Metagenomi or any of its Affiliates, or if no Research or Development activities remain ongoing at the time of such Change of Control, the following shall apply:

(i) Metagenomi shall promptly disclose or deliver to Moderna, to the extent not previously provided, copies of all data, results, and information in Metagenomi's (or its Affiliates') possession constituting Know-How included in the Metagenomi Licensed Collaboration Technology, which is reasonably necessary or useful for Moderna's Exploitation of the Candidates and the Products (including for regulatory purposes) in such Program, and upon Moderna's reasonable request and at Moderna's expense, Metagenomi will: (A) provide reasonable technical assistance to Moderna during such disclosure or delivery set forth in the preceding sentence for a period not longer than [***]; and (B) make its employees and non-employee consultants reasonably available at their respective places of employment to consult with Moderna on issues arising in the course of Moderna's Exploitation or in connection with any request related to a Product from any Regulatory Authority, including regulatory, scientific, technical and clinical testing issues, preparation and submission of Regulatory Filings, and assistance in responding to requests from Regulatory Authorities (the "**Know-How Transfer**"). The Know-How Transfer to be undertaken under the foregoing shall be overseen by a Working Group established for such purposes, which Working Group may put in place a transfer plan expressly identifying Know-How owned or Controlled by Metagenomi or its Affiliates to be transferred and the timing for such transfer; and

(ii) the JSC shall be immediately disbanded, and all approval rights of the JSC, or final decision making authority granted to a Party pursuant to this Agreement, shall become approval rights of the corresponding Party (*i.e.*, mutual agreement by the Parties or final decision making authority by a Party).

(b) **Research Continuance Scenario**. The "**Research Continuance Scenario**" means, on a Program-by-Program basis, that Metagenomi shall continue the Research and other activities, if any, being conducted under the applicable Program Plan, and the Program and this Agreement shall continue in the same manner as prior to the Change of Control, and in which case: (i) Moderna will maintain all of its rights under this Agreement; and (ii) Metagenomi shall continue to comply with its diligence obligations hereunder, with the same level of diligence applied to such activities after the consummation of such Change of Control as compared to prior to the consummation of such Change of Control.

14.10 **Acquirer Engaged in Competing Program**. On a Program-by-Program basis, if a Party undergoes a Change of Control at any time before expiry of the Term for such Program and, as of the closing date of such Change of Control transaction or thereafter, the Acquirer (or any of its Affiliates) is engaged in a Competing Program, then such Party shall implement (as of the closing of such transaction or the engagement in the Competing Program, if later than the closing of such transaction) and enforce Firewalls for the duration of the Firewall Period.

14.11 **Firewalled Programs**. Promptly following the first to occur of any of the following events in relation to an Acquirer of a Party during the Term: (a) the effective date of a Change of Control of such Party to an Acquirer with a Competing Program, or (b) DC Nomination (if applicable), in either case (a) or (b) that results in the Acquirer's program with respect to the applicable Collaboration Target becoming a Competing Program, or (c) the initiation of a Competing Program by an Acquirer of such Party (each of (a), (b), and (c), with respect to such Competing Program, the "**Firewall Event**"), such Party shall implement and enforce Firewalls between the applicable Program and the Competing Program for the duration of the applicable Firewall Period.

14.12 **Firewall Audits**. In the event a Party is obligated to implement and enforce Firewalls under this Agreement, the other Party shall have the right, through a designated Third Party auditor reasonably acceptable to such Party, to audit such Party's (and, as applicable, its Affiliates') obligations under this Agreement regarding implementation and enforcement of such Firewalls for purposes of confirming compliance with the Firewalls, identifying any vulnerabilities or breaches and requiring such Party (or its Affiliates) to promptly remediate any non-compliance identified by such audit. In connection with such audit, duly authorized representatives of the other Party's designated auditor may make an on-site visit to such Party (or its Affiliate) for the purpose of conducting such audit. The other Party may conduct such audits from time to time as reasonably necessary to confirm such Party's compliance with such Firewall requirements no more than [***] or more frequently if the other Party reasonably believes at any time that such Party is not in compliance with such Firewall requirements; provided that if the auditor identifies a breach of the Firewall, the other Party will be entitled to up to [***] additional audits within the same Calendar Year to verify that appropriate action has been taken to remedy the breach of the Firewall. Any audits described under this Section 14.12 (Firewall Audits) shall be conducted during such Party's regular business hours, for a duration only as reasonably necessary to confirm such Party's compliance with the applicable Firewall requirements, and shall not unreasonably interfere with or impede such Party's business operations. The other Party shall provide such Party with written notice of such audit at least [***] prior to such requested audit (or such shorter period as may be designated by the other Party if the other Party reasonably believes at any time that such Party is not in compliance with such Firewall requirements). All such audits shall be conducted at the other Party's cost and expense. If the auditor identifies any breach of the Firewall, the other Party or the auditor will notify such Party, and such Party will promptly (and will use reasonable efforts to ensure its Affiliates promptly) take all action necessary to remedy such breach, and will provide the other Party with reasonable assurance that such action has been taken, at such Party's sole expense.

14.13 **Waivers**. The failure of a Party to insist upon strict performance of any provision of this Agreement or to exercise any right arising out of this Agreement shall neither impair that provision or right nor constitute a waiver of that provision or right, in whole or in part, in that instance or in any other instance. Any waiver by a Party of a particular provision or right shall be in writing, shall be as to a particular matter and, if applicable, for a particular period of time and shall be signed by such Party.

14.14 **Force Majeure**. Neither Party shall be responsible to the other for any failure or delay in performing any of its obligations under this Agreement or for other nonperformance hereunder (excluding, in each case, the obligation to make payments when due) if such delay or nonperformance is caused by strike, fire, flood, earthquake, accident, war, act of terrorism, pandemics, act of God or of the government of any country or of any local government, or by any other cause unavoidable or beyond the control of any Party hereto. In such event, such affected Party shall use Commercially Reasonable Efforts to resume performance of its obligations and shall keep the other Party informed of actions related thereto.

14.15 **Interpretation**. The captions and headings to this Agreement are for convenience only, and are to be of no force or effect in construing or interpreting any of the provisions of this Agreement. Unless specified to the contrary, references to Articles, Sections or Schedules mean the particular Articles, Sections or Schedules to this Agreement and references to this Agreement include all Schedules hereto. In the event of any conflict between the main body of this Agreement and any Schedule hereto, the main body of this Agreement shall prevail. Unless context otherwise clearly requires, whenever used in this Agreement: (a) the words "include" or "including" shall be construed as incorporating, also, "but not limited to" or "without limitation"; (b) the word "or" is used in the inclusive sense (i.e., "and/or"); (c) the word "day" or "year" means a calendar day or year unless otherwise specified; (d) the word "notice" means notice in writing (whether or not specifically stated) and shall include notices, consents, approvals and other written communications contemplated under this Agreement; (e) the words "hereof," "herein," "hereby" and derivative or similar words refer to this Agreement as a whole and not merely to the particular provision in which such words appear; (f) the words "shall" and "will" have interchangeable meanings for purposes of this Agreement; (g) provisions that require that a Party, the Parties or a committee hereunder "agree," "consent" or "approve" or the like shall require that such agreement, consent or approval be specific and in writing, whether by written agreement, letter, approved minutes or otherwise; (h) words of any gender include the other gender; (i) words using the singular or plural number also include the plural or singular number, respectively; (j) references to any specific law, rule or regulation, or article, section or other division thereof, shall be deemed to include the then-current amendments thereto or any replacement law, rule or regulation thereof; (k) the phrase "non-refundable, non-creditable" shall not prohibit, limit or restrict either Party's right to obtain damages in connection with a breach of this Agreement; and (l) neither Party shall be deemed to be acting on behalf of the other Party.

14.16 **Expenses**. Each Party shall pay its own costs, charges and expenses incurred in connection with the negotiation, preparation and execution of this Agreement.

14.17 **Further Assurances**. Moderna and Metagenomi hereby covenant and agree without the necessity of any further consideration, to execute, acknowledge and deliver any and all documents and take any action as may be reasonably necessary to carry out the intent and purposes of this Agreement.

14.18 **No Third Party Beneficiary Rights**. This Agreement is not intended to and shall not be construed to give any Third Party any interest or rights (including any Third Party beneficiary rights) with respect to or in connection with any agreement or provision contained herein or contemplated hereby, except for Third-Party Indemnitees or as otherwise expressly provided for in this Agreement.

14.19 **Construction**. The Parties hereto acknowledge and agree that: (a) each Party and its counsel reviewed and negotiated the terms and provisions of this Agreement and have contributed to its revision; (b) the rule of construction to the effect that any ambiguities are resolved against the drafting Party shall not be employed in the interpretation of this Agreement; and (c) the terms and provisions of this Agreement shall be construed fairly as to all Parties hereto and not in a favor of or against any Party, regardless of which Party was generally responsible for the preparation of this Agreement.

14.20 **Cumulative Remedies**. No remedy referred to in this Agreement is intended to be exclusive unless explicitly stated to be so, but each shall be cumulative and in addition to any other remedy referred to in this Agreement or otherwise available under law.

14.21 **Extension to Affiliates**. Except as expressly set forth otherwise in this Agreement, each Party shall have the right to extend the rights and immunities granted in this Agreement to one or more of its Affiliates. All applicable terms and provisions of this Agreement, except this right to extend, shall apply to any such Affiliate to which this Agreement has been extended to the same extent as such terms and provisions apply to the Party extending such rights and immunities. For clarity, a Party extending the rights and immunities granted hereunder shall remain primarily liable for any acts or omissions of its Affiliates.

14.22 **Other Activities**. Except as expressly provided in this Agreement, each Party may: (a) engage in research, manufacturing, development or commercialization activities that utilize technologies similar to or involve products competitive with those contemplated under this Agreement; and (b) use any publicly available information and research results (including any publicly available information of the other Party) to the same extent as Third Parties generally are legally permitted to do so. Except as expressly provided in this Agreement, nothing in this Agreement, including any obligation to promote Products or any restriction on the use of Confidential Information, shall create: (i) any obligation not to research, develop, manufacture, commercialize or otherwise exploit any product; or (ii) any obligation to utilize a Sales Force for Products separate from sales forces for other products. Each Party has limited resources, and as a result it is anticipated that personnel assigned to the activities contemplated under this Agreement may also participate in other activities that may utilize technologies similar to or involve products competitive with those contemplated under this Agreement.

14.23 **Counterparts; Electronic Signatures**. This Agreement may be executed in any number of counterparts, each of which is deemed an original, but all of which together constitute one instrument. This Agreement may be executed and delivered electronically and upon such delivery such electronic signature shall be deemed to have the same effect as if the original signature had been delivered to the other Party.

[*Signature page follows*]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed as of the Effective Date by their duly authorized representatives.

METAGENOMI, INC.

By: /s/ Brian Thomas
Name: Brian Thomas
Title: CEO

MODERNATX, INC.

By: /s/ Stephen Hoge
Name: Stephen Hoge
Title: President

Schedule A

DT Co-Co Target

- PH1

Schedule B

Manufacturing Cost

"**Manufacturing Cost**" means [***].

For purposes of this Schedule B, "**Direct Costs**" equals the sum of the following as incurred for DT Co-Co Candidates or DT Co-Co Products, as applicable:

[***].

For purposes of this Schedule B, "**Indirect Costs**" equals the sum of the following as incurred for DT Co-Co Candidates or DT Co-Co Products, as applicable:

[***].

Schedule C

Certain Technology Milestones

[***]

Schedule D

Reserved DT Targets

[***]

Schedule E

Approved Subcontractors

[***].

Schedule F

Existing Co-Co In-Licenses

[***].

Schedule G

Existing RT In-Licenses

[***].

Schedule H

Existing DT In-Licenses

[***].

Schedule I

Material Transfer Record

[***].

For clarity, defined terms used herein and not defined herein have the meanings ascribed to such terms in the Agreement. This Material Transfer Record may be executed in one or more counterparts, including by facsimile, email or PDF exchange, each of which shall be deemed to be an original as against any party whose signature appears thereon, but all of which together shall constitute but one and the same instrument.

Direction of Transfer:

☐ To Moderna, from Metagenomi

☐ To Metagenomi, from Moderna

Description of Collaboration Material: _____

_____

_____

_____

In signing below, the Moderna representative and the Metagenomi representative acknowledge that they understand and shall abide by the terms and conditions under which the Collaboration Material is provided.

_____	_____
Moderna Representative Signature	Metagenomi Representative Signature
_____	_____
Moderna Representative Name	Metagenomi Representative Name
_____	_____
Moderna Representative Title	Metagenomi Representative Title
_____	_____
Date	Date

Schedule J

Co-Co Products Profit and Loss Share

This **Schedule J** (Co-Co Products Profit and Loss Share) covers financial planning, accounting policies and procedures to be followed in determining the Co-Co Products Profit and Loss Share with respect to the DT Co-Co Products in the Territory.

1. **Principles of Reporting**.

1.1 Each Party shall provide a report of the results of its operations for the applicable period with respect to Commercialization, Medical Affairs and other related activities in the Territory for each DT Co-Co Product, which report shall include the cost categories set forth below. Following receipt of each such report from the Parties, Moderna shall generate a consolidated report, for each DT Co-Co Product in the Territory, based on the foregoing financial information provided by each Party, which report shall be in the following format (the "**P&L**"):

Cost Category	Moderna	Metagenomi	Total
Net Sales			
less Cost of Sales			
plus Licensing Income			
less Eligible Medical Affairs Costs			
less Commercialization Costs			
less Other Operating Expenses			
= Operating Profits or Losses			

1.2 **Standards**. It is the intention of the Parties to interpret each of the definitions used in the P&L in a manner that is consistent with this **Schedule J (Co-Co Products Profit and Loss Share)** and applicable U.S. GAAP principles; it being understood and agreed that "Operating Profits or Losses" shall be calculated in accordance with applicable U.S. GAAP principles. Each Party agrees to provide reasonable supporting documentation to ensure that each Party's accounting methodologies are reasonable and consistently applied. Reasonable methodologies may include a standard rate or some other appropriate basis for allocating costs. Notwithstanding anything herein to the contrary, in no event shall either Party be obligated to recognize revenue for its own purposes in a manner that is contrary to the U.S. GAAP principles used by such Party.

1.3 **Accounting Procedures**. Each Party shall record and account for its Eligible Medical Affairs Costs, Commercialization Costs or Other Operating Expenses, in each case, in a manner that allocates costs to the extent possible to a specific activity in the applicable Medical Affairs Budget, Commercialization Budget or specific category of Other Operating Expenses. For purposes of determining Net Sales, Licensing Income, Cost of Sales, Eligible Medical Affairs Costs, Commercialization Costs, or Other Operating Expenses, any expense allocated by either Party to a particular category under the definition of Net Sales, Licensing Income, Cost of Sales, Eligible Medical Affairs Costs, Commercialization Costs, or Other Operating Expenses shall not be allocated to any other category under the definition of Net Sales, Licensing Income, Cost of Sales, Eligible Medical Affairs Costs, Commercialization Costs, or Other Operating Expenses, respectively. Each Party shall determine Net Sales, Licensing Income, Cost of Sales, Eligible Medical Affairs Costs, Commercialization Costs, and Other Operating Expenses using its standard accounting procedures, consistently applied and consistent with U.S. GAAP principles, to the maximum extent practicable as if the applicable DT Co-Co Product were a solely-owned product of such Party (provided that the application of such procedures results, on balance, in outcomes that are fair and equitable to both Parties taking into consideration the interests of both Parties as reflected in this Agreement). The Parties recognize that such procedures may change from time to time and that any such changes may affect the calculation of Net Sales, Licensing Income, Cost of Sales, Eligible Medical Affairs Costs, Commercialization Costs, or Other Operating Expenses. Where the change is or would be material to the other Party, the Party proposing to make the change shall provide the other Party with an explanation of the proposed change and an estimate of the effect of the change on the relevant cost or expense category.

1.4 If necessary, a Party shall make the appropriate adjustments to the financial information it supplies under this **Schedule J** (Co-Co Products Profit and Loss Share) to conform with the format of reporting results of operation required for the P&L. The Parties understand that all Net Sales of each DT Co-Co Product shall be booked in accordance with the Selling Party's U.S. GAAP principles and otherwise in accordance with Section 1.121 (Net Sales).

2. **Frequency of Reporting**.

In order to prepare the consolidated P&L, each Party shall submit to the other Party a financial statement of such Party's Commercialization and Medical Affairs activities, Net Sales, Licensing Income, Cost of Sales, Eligible Medical Affairs Costs, Commercialization Costs, and Other Operating Expenses in the format of the P&L within [***] after the end of [***]. Each such individual P&L shall specify in reasonable detail all categories of actual costs related to Eligible Medical Affairs Costs, Commercialization Costs and Other Operating Expenses, and, upon a Party's request the other Party shall promptly provide any invoices or other supporting documentation for any External Costs or with respect to which documentation is otherwise reasonably requested. Within [***] after the last day of each Calendar Quarter, Moderna shall prepare a reconciliation report and send it to Metagenomi. Within [***] after the end of each Calendar Quarter, the Parties shall agree on a consolidated P&L for the applicable Calendar Quarter and for such Calendar Quarter, a consolidated reporting of the Operating Profits or Losses, the calculation of the Operating Profits or Losses, and the applicable sharing and determination of the corresponding cash settlement in an agreed format (such report, the "**Consolidated Report**").

Within [***] after the end of each Calendar Quarter, whichever Party is owed a payment shall prepare an invoice for such payment and deliver such invoice to the other Party. The paying Party shall pay such invoice within [***] after receipt of the invoice. For clarity, the first P&L prepared with respect to each DT Co-Co Product shall be prepared for the first Calendar Quarter in which either Party incurs Eligible Medical Affairs Costs, Commercialization Costs, or Other Operating

Expenses (regardless of whether such Eligible Medical Affairs Costs, Commercialization Costs, or Other Operating Expenses are incurred before or after Regulatory Approval for any DT Co-Co Product). In addition to the above, within [***] after the last day of the [***] of every Calendar Quarter, each Party shall submit to the other Party a report, with respect to each DT Co-Co Product, setting forth the P&L representing for each DT Co-Co Product (if any) the actual Net Sales, Cost of Sales, Licensing Income, Eligible Medical Affairs Costs, Commercialization Costs, and Other Operating Expenses recognized by such Party in such just-completed two month period as well as an estimate of expected Net Sales, Cost of Sales, Licensing Income, Eligible Medical Affairs Costs, Commercialization Costs, and Other Operating Expenses to be recognized in the third month of the current Calendar Quarter for each such DT Co-Co Product (if any).

3. **Financial Records**.

Each Party shall keep all financial records and reports required by this **Schedule J (Co-Co Products Profit and Loss Share)** in accordance with the U.S. GAAP principles to the extent applicable hereunder.

4. **Operating Profits or Loss Sharing**.

4.1 The Parties agree to share the Operating Profits or Losses with respect to Commercialization activities, Medical Affairs activities, and the activities related to Other Operating Expenses for each DT Co-Co Product (whether such Commercialization activities, Medical Affairs activities, and the activities related to Other Operating Expenses were conducted before or after Regulatory Approval for each DT Co-Co Product) as set forth in Section 7.4 (Co-Co Products Profit and Loss Share) of this Agreement.

4.2 Each Party is entitled to [***] of the Operating Profits or Losses for a given Calendar Quarter. If, taking into account the Net Sales, Cost of Sales, Licensing Income received, and Eligible Medical Affairs Costs, Commercialization Costs, and Other Operating Expenses incurred by the Parties as outlined in the P&L for such DT Co-Co Product, in each case, in such Calendar Quarter, an amount is due from one Party to the other to effect the Profit and Loss Share, then at the time the applicable Consolidated Report is delivered to Moderna, Metagenomi shall make a payment to Moderna for an amount such that Metagenomi shall be bearing [***] of the Operating Profits or Losses for the applicable Calendar Quarter. Metagenomi shall make payment in full to Moderna [***] after the date of an invoice therefor from Moderna. Likewise, if with respect to such Calendar Quarter, a balancing payment is due from Moderna to Metagenomi to effect the Profit and Loss Share, then, [***] after the applicable Consolidated Report is delivered to Metagenomi, Moderna shall pay Metagenomi an amount such that Metagenomi shall receive [***] of the Operating Profits or Losses for the applicable Calendar Quarter.

4.3 Disputes

In the event any invoiced payment that is not otherwise subject to a good faith dispute is made after the date specified in Paragraph 4.2 of this **Schedule J (Co-Co Products Profit and Loss Share)**, the paying Party shall pay the additional amounts or the receiving Party shall reimburse such excess payments, as applicable, with interest from the date originally due as provided in Section 7.15 (Default Interest) of this Agreement, and the remaining, disputed portion of any such payment shall be paid within [***] after the date on which the JSC, using good faith efforts, resolves the dispute, or as escalated in accordance with Section 2.10 (Decisions) with respect to the DT Co-Co Product.

5. **Start of Operations and Effective Accounting Date Termination**.

5.1 The Profit and Loss Share shall commence on the Effective Date. For clarity, Cost of Sales, Eligible Medical Affairs Costs, Commercialization Costs, and Other Operating Expenses incurred prior to Regulatory Approval of each DT Co-Co Product are chargeable to the applicable Profit and Loss Share in accordance with U.S. GAAP principles.

5.2 The Profit and Loss Share shall continue until this Agreement is terminated or expires.

6. **Audits**.

The record keeping and audit provisions set forth in Section 7.6 (Accounting; Audit) of this Agreement shall apply with respect to all amounts payable by either Party to the other Party under the Profit and Loss Share, including with respect to the calculation of Eligible Medical Affairs Costs, Commercialization Costs, Other Operating Expenses, Licensing Income, Cost of Sales and Net Sales with respect to the performance of Commercialization activities, Medical Affairs activities and the activities under Other Operating Expenses for each DT Co-Co Product in the Territory.

Schedule K

Existing Patents

[***]

Schedule L

RT Technology Research Plan

[***]

Schedule M

Partnership Tax Matters

1.1. **Constructive Partnership, Tax Treatment**.

1.1.1. Metagenomi and Moderna (the "**Partners**," and each a "**Partner**") acknowledge that the rights and obligations imposed on each of them pursuant to this Agreement that relate to the allocation of Profits and Loss Share pursuant to Article 7 (Fees, Royalties, & Payments), any other sharing of profits and losses from the Commercialization of the Products within the Field in the Territory, and the collaborative relationship formed between them in connection therewith, in each case solely in connection with the DT Co-Co Program, gives rise to a partnership for U.S. federal (and, to the extent applicable, state and local) income tax purposes (the "**Partnership**"), which will commence upon DC Nomination in such DT Co-Co Program (the "**Partnership Commencement Date**"). The activities of the Partners on or after the Partnership Commencement Date with respect to the Commercialization of the Product within the Field in the Territory and the rights related thereto in the DT Co-Co Program (the "**Shared Rights**") shall be deemed to be conducted in and held by the Partnership. The Partnership shall not, and shall not be deemed to, have any interest or rights relating to Product outside the Field or outside the Territory (with respect to the DT Co-Co Program) or otherwise under this Agreement other than with respect to the Shared Rights. The Partnership, and the rights and obligations set forth in this Schedule M, shall remain in existence for so long as this Agreement remains in full force and effect (provided this Agreement has not been terminated in its entirety, in accordance with Article 12 of this Agreement or otherwise) or until the DT Co-Co Program is terminated pursuant to Section 1.8 of this Schedule M, if such termination occurs prior to the termination of the Agreement in its entirety. Prior to the commencement of the Partnership, the Parties may mutually and in good faith determine that it is desirable to affect the arrangement between Metagenomi and Moderna with respect to the DT Co-Co Program as two or more Partnerships for U.S. federal income tax purposes, rather than as a single Partnership, each between Metagenomi or a Metagenomi Affiliate, as one partner, and Moderna or a Moderna Affiliate, as the second partner; provided, however, that, unless otherwise mutually agreed to by Metagenomi and Moderna, an Affiliate that is a foreign person for U.S. federal income tax purposes may only be a partner in any Partnership if the use of such foreign Affiliate shall not adversely impact the second partner. Metagenomi and Moderna shall cooperate in a reasonably prompt manner in order to effect any amendments to this Schedule M or this Agreement required or advisable as a result of the preceding sentence. The Parties further acknowledge that the arrangement described in this Agreement (including this Schedule M) shall be treated by the Parties as a partnership solely for U.S. federal and applicable state and local income tax purposes and is not intended to constitute a partnership for any non-tax, non-U.S., or any other purpose. The Partners agree not to take any tax position, whether in a tax return or otherwise, that is inconsistent with this Schedule M, other than pursuant to Section 1.7 of this Schedule M.

1.1.2. For U.S. federal income and other applicable tax purposes, on the Partnership Commencement Date Metagenomi shall be treated as contributing to the Partnership its undivided interest in the Metagenomi Licensed DT Co-Co Technology and its portion of the Commercialization rights with respect to the DT Co-Co Product in the Territory (with respect to the DT Co-Co Program) under this Agreement, and Moderna shall be treated as contributing to the Partnership its undivided interest in the Moderna Licensed DT Co-Co Technology and its portion of the Commercialization rights with respect to the DT Co-Co Product in the Territory (with respect to the DT Co-Co Program) under this Agreement, each as a Capital Contribution in exchange for an interest in the Partnership.

1.2. **Definitions**. Capitalized terms used, but not defined, herein will have the meanings ascribed to them in this Agreement. For purposes of this Schedule M:

(a) "**Book**" means the method of accounting prescribed for compliance with the capital account maintenance rules set forth in Section 1.704-1(b)(2)(iv) of the Treasury Regulations, as distinguished from any accounting method which the Partnership may adopt for other purposes such as financial reporting.

(b) "**Capital Account**" has the meaning set forth in Section 1.3.1 of this Schedule M.

(c) "**Capital Contribution**" means, for each Partner, such Partner's cash or property contributed (or deemed contributed) to the Partnership.

(d) "**Code**" means the U.S. Internal Revenue Code of 1986, as amended.

(e) "**Fiscal Year**" means the calendar year.

(f) "**Gross Asset Value**" means, with respect to any asset of the Partnership, the asset's adjusted basis for U.S. federal income tax purposes, adjusted to reflect any adjustments required or permitted by Sections 1.704-1(b)(2)(iv)(d) through (g), (m) and (s) of the Treasury Regulations, as determined by the Partnership Representative and mutually agreed upon by the Partners; provided that, in the case of any asset contributed to the Partnership, the initial Gross Asset Value of such property shall be equal to the fair market value of such asset as of the date of contribution, as determined by the Partnership Representative and mutually agreed upon by the Partners.

(g) "**Net Income**" and "**Net Losses**" mean the Book income, gain, loss, deductions and credits of the Partnership in the aggregate or separately stated, as appropriate, as of the close of each Taxable Year on the Partnership's tax return filed for U.S. federal income tax purposes (or as of any other applicable time of the relevant Taxable Year).

(h) "**Partnership Representative**" has the meaning set forth in Section 1.6.1 of this Schedule M.

(i) "**Profit Share**" has the meaning set forth in Section 1.4.1 of this Schedule M.

(j) "**Shared Rights**" has the meaning set forth in Section 1.1.1 of this Schedule M.

(k) "**Taxable Year**" means the Partnership's Fiscal Year, or such other year as may be required by Section 706 of the Code.

(l) "**Treasury Regulations**" means regulations (whether in final, proposed or temporary form) promulgated by the U.S. Department of the Treasury under the Code.

1.3. **Capital Accounts; Formation of the Partnership**.

1.3.1. The Partnership shall maintain a separate capital account for each Partner according to the rules set forth in Section 1.704-1(b)(2)(iv) of the Treasury Regulations (a "**Capital Account**").

1.3.2. Each Partner's Capital Account:

(a) shall be increased by (A) the Capital Contributions by such Partner to the Partnership after the Partnership Commencement Date, as determined by the Partnership Representative and mutually agreed upon by the Partners (net of liabilities secured by the contributed property that the Partnership is considered to assume or take subject to under Section 752 of the Code), and (B) such Partner's distributive share of Net Income and other items of income and gain allocated to such Partner after the Partnership Commencement Date;

(b) shall be decreased by (A) the amount of money distributed (or deemed distributed) to such Partner by the Partnership after the Partnership Commencement Date, (B) the fair market value of property (as determined by the Partnership Representative and mutually agreed upon by the Partners) distributed (or deemed distributed) to such Partner by the Partnership (net of liabilities secured by the distributed property that the Partner is considered to assume or take subject to under Section 752 of the Code) after the Partnership Commencement Date and (C) such Partner's distributive share of Net Losses and other items of loss and deduction allocated to such Partner after the Partnership Commencement Date; and

(c) other adjustments shall be made to the Capital Accounts of the Partners to accord with the regulations promulgated under Section 704(b) of the Code as determined by the Partnership Representative and mutually agreed upon by the Partners.

1.3.3. As of the Partnership Commencement Date, the initial Capital Account of each Partner shall be equal to the Capital Contribution of each such Partner pursuant to Section 1.1.2 of this Schedule M.

1.4. **Distributions**.

1.4.1. **Non-Liquidating Distributions**. In the event that assets of the Partnership are deemed to be distributed other than in liquidation of the Partnership, such assets shall be deemed to be distributed in accordance with the payments comprising the share of Operating Profit or Losses between Metagenomi and Moderna under Section 7.4 (Co-Co Products Profit and Loss Share) of this Agreement (the "**Profit Share**"), unless otherwise determined by the Partnership Representative and mutually agreed upon by the Partners.

1.4.2. **Liquidating Distribution**. In the event that the Partnership is terminated pursuant to Section 1.8 of this Schedule M, then the assets of the Partnership shall be distributed (or deemed to be distributed) in liquidation of the Partnership in accordance with the Profit Share, and the requirements under Section 5.6 of this Agreement shall be deemed to occur after such distribution and in exchange for payments required pursuant to Section 7.11 of this Agreement, as applicable.

1.4.3. **Withholding for Taxes**. Subject to the provisions of Section 7.16.3 of this Agreement, any Partner is authorized to withhold from payments made to the other Partner that are treated as distributions described in Section 1.4.1 or Section 1.4.2 of this Schedule M to the Partners, and with respect to allocations pursuant to Section 1.5 of this Schedule M to the Partners, and to pay over to any federal, state or local government, any such taxes as are required to be deducted or withheld under any provision of Applicable Law. Any amounts so withheld shall be treated as distributed pursuant to Section 1.4.1 or Section 1.4.2 of this Schedule M, as applicable.

1.5. **Allocations, Section 704(c)**.

1.5.1. Except as required by Section 1.5.2 or Section 1.5.3 of this Schedule M, the Net Income or Net Loss for any Taxable Year shall be allocated to the Partners in such a manner so that the Capital Account of each Partner equals (as of the end of such allocation period and to the fullest extent possible) the amount that would be distributed to such Partner if all properties of the Partnership, including cash, were sold for cash equal to their respective Gross Asset Values, all liabilities allocable to such properties were then due and were satisfied according to their terms, all minimum gain chargebacks required by this Agreement and the Treasury Regulations were made, all obligations of Partners to contribute additional capital to the Partnership were satisfied and all remaining proceeds from such sale were distributed pursuant to the order and priority of Section 1.4.2 of this Schedule M.

1.5.2. **Special Allocations**. Notwithstanding Section 1.5.1 of this Schedule M, the Partnership Representative may, if mutually agreed upon by the Partners, specially allocate any costs or expenses that are disproportionately borne by one Partner to such Partner.

1.5.3. **Regulatory Allocations**. In the event any Partner unexpectedly receives any adjustments, allocations or distributions described in Sections 1.704-1(b)(2)(ii)(d)(4), 1.704-1(b)(2)(ii)(d)(5) or 1.704-1(b)(2)(ii)(d)(6) of the Treasury Regulations, items of income (including gross income) and gain shall be specially allocated to such Partner in an amount and manner sufficient to eliminate the deficit balance in such Partner's Capital Account (in excess of (i) the amount such Partner is obligated to restore upon liquidation of the Partnership or upon liquidation of such Partner's interest in the Partnership and (ii) such Partner's share of the Minimum Gain (as defined in Section 1.704-2 of the Treasury Regulations)) created by such adjustments, allocations or distributions as quickly as possible. Additionally, there are hereby incorporated herein such special allocation provisions governing the allocation of income, deduction, gain, and loss for U.S. federal income tax purposes as may be necessary under, and in the manner required by, the Treasury Regulations to ensure that this Schedule M complies with all requirements of Section 1.704-2 of the Treasury Regulations relating to "minimum gain" and "partner nonrecourse debt minimum gain" and the allocation and chargeback of so-called "nonrecourse deductions" and "partner nonrecourse deductions", including a "qualified income offset".

1.5.4. Except as otherwise provided in this Section 1.5.4 and in Section 1.5.5 of this Schedule M, for U.S. federal income tax purposes, all items of income gain, loss, deduction and credit shall be allocated among the Partners in the same manner the corresponding Book item was allocated pursuant to Section 1.5.1 or Section 1.5.2 of this Schedule M. In the case of contributed property, items of income, gain, loss, deduction and credit, as determined for U.S. federal income tax purposes, shall be allocated first in a manner consistent with the requirements of Section 704(c) of the Code to take into account the difference between the Gross Asset Value of such property and its adjusted tax basis at the time of contribution. If the Gross Asset Value of any asset of the Partnership is adjusted pursuant to the terms of this Schedule M, then subsequent allocations of income, gain, loss, deduction and credit, as determined for U.S. federal income tax purposes, shall be allocated with respect to such assets so as to take into account such adjustment in the same manner as under Section 704(c) of the Code and the Treasury Regulations promulgated thereunder.

1.5.5. Metagenomi and Moderna shall mutually and in good faith agree on the method under Section 704(c) of the Code and the Treasury Regulations to be utilized by the Partnership prior to the Partnership Commencement Date. For the sake of clarity, the allocations required by Section 1.5.4 and this Section 1.5.5 of this Schedule M are solely for purposes of U.S. federal and applicable state and local income taxes and will not affect the allocation of Net Income or Net Losses as between the Partners or any Partner's Capital Account.

1.6. **Tax Reports, Tax Elections and Partnership Representative**.

1.6.1. To the extent permitted under Applicable Law, the Partnership intends to elect out of the application of Subchapter C of Chapter 63 of the Code (i.e., the partnership audit rules) and any applicable state or local equivalent. For any applicable Taxable Year (or portion thereof) where the Partnership is able to so elect, the Partners agree to cooperate to share information relevant to the matters addressed by this Schedule M and agree not to take any position on any tax return applicable to the matters addressed by this Schedule M that may be materially adverse to the other Partner without the consent of the other Partner, not to be unreasonably withheld, delayed or conditioned. To the extent required after giving effect to the first sentence of Section 1.6 of this Schedule M, the Partnership hereby designates Moderna to act as the "partnership representative" of the Partnership within the meaning of Section 6223 of the Code (along with any state or local equivalent, the "**Partnership Representative**"), and the Partnership Representative shall have the authority to appoint the "designated individual" within the meaning of Treasury Regulations Section 301.6223-1(b)(3). If the Partnership is unable to elect out of the partnership audit rules, the Partnership Representative is authorized and required to represent the Partnership in connection with all examinations of the Partnership's affairs by U.S. federal (and any applicable state) income tax authorities, including resulting administrative and judicial proceedings, to make any elections in connection therewith that are mutually agreed upon by the Partners, and to incur expenses for professional services and costs associated therewith, which shall be equally borne by each of Metagenomi and Moderna; provided, that the Partnership Representative shall notify Metagenomi of any such administrative and judicial proceedings involving the Partnership and shall provide Metagenomi the opportunity to jointly participate in any such matters. Metagenomi agrees to cooperate with the Partnership Representative as reasonably requested by the Partnership Representative with respect to the conduct of such proceedings. The Partnership Representative will, with mutual agreement by the Partners,

determine whether the Partnership (either on its own behalf or on behalf of the Partners) will contest or continue to contest any tax deficiencies assessed or proposed to be assessed by any taxing authority provided, however, that the Partnership Representative shall not (i) agree or consent to compromise or settle such matters or (ii) take any action that disproportionately adversely affects Metagenomi, without the mutual agreement of the Partners. Any deficiency for taxes imposed on any Partner (including penalties, additions to tax or interest imposed with respect to such taxes) will be paid by such Partner, and if paid by another Partner, will be recoverable from the Partner on which such deficiency was imposed (including by offset against distributions otherwise payable to such Partner). The Partners agree to cooperate in good faith to notify each other regarding any tax notices or audits relating to the Partnership and to provide any information or documentation reasonably requested by the Partnership Representative in connection with its duties under this Section 1.6.1 of this Schedule M. In no event shall the Partnership Representative require the Partners to file an amended tax return. A Partner's obligation to cooperate with the Partnership Representative and to indemnify and make payments to another Partner under this Section 1.6.1 of this Schedule M will survive the termination, dissolution, liquidation and winding up of the Partnership and the transfer, assignment or liquidation of a Partner's interest in the Partnership.

1.6.2. The Partnership Representative shall prepare and file, or cause to be prepared and filed, all necessary U.S. federal, state or local income tax returns for the Partnership. The Partnership Representative shall have such tax returns prepared by a "big four" accounting firm, which initially shall be Ernst & Young, such accounting firm to be chosen with Metagenomi's consent, and the cost of the preparation of such tax returns shall be equally borne by each of Metagenomi and Moderna. At least 60 days before the due date (including extensions) of any such tax return, the Partnership Representative shall submit a copy of such tax return to Metagenomi for its review and comment. The Partners shall mutually agree on the preparation of such tax returns, making any required changes no fewer than 10 days prior to the due date of such tax return. Within 180 days after the end of each Taxable Year, the Partnership Representative shall cause the Partnership to furnish Metagenomi with an IRS Form K-1 for such Taxable Year. In addition, the Partnership shall deliver or cause to be delivered not later than the 15th day after the end of each Taxable Year to a requesting Partner all information necessary for the preparation of such Partner's U.S. federal income tax returns and any state, local and other income tax returns that such Partner is required to file. Furthermore, the Partnership Representative shall jointly determine with Metagenomi regarding any matter for which the Partnership Representative is responsible or over which the Partnership Representative has discretion under this Schedule M, including without limitation the preparation of any tax return or the making of any election hereunder.

1.6.3. The Partners shall jointly determine whether to make or revoke any available election pursuant to the Code. Each Partner will, upon request, use reasonable efforts to supply the information necessary to give proper effect to any such election. The Partners hereby agree to cooperate in good faith regarding any matters related to any tax elections or tax reporting positions of the Partnership.

1.7. **Tax Position**. Unless otherwise required by Applicable Law, no Partner will take a position on such Partner's U.S. federal or other applicable income tax returns, in any claim for refund or in any administrative or legal proceedings that is inconsistent with this Agreement (including this Schedule M) or with any information return filed by the Partnership. If any Partner believes that such a position is required by Applicable Law, such Partner must immediately notify the other Partner in writing, citing such Applicable Law or any interpretation thereof.

1.8. **Termination of Partnership**. With respect to the DT Co-Co Program, the Partnership shall terminate upon the earlier of (i) the expiration or termination of the DT Co-Co Program, or (ii) an Opt-Out by either Party from the DT Co-Co Program.

Schedule N

Joint Press Release

Metagenomi and Moderna Establish Collaboration to Develop Next-Generation *In Vivo* Gene Editing Therapeutics

- *The collaboration will combine Metagenomi's next-generation CRISPR-based and other novel gene editing systems with Moderna's mRNA and LNP technologies to accelerate the development of in vivo gene editing therapeutics*

- *Multi-year research collaboration funded by Moderna covering a series of undisclosed disease targets*

- *Metagenomi to receive up-front cash payment, equity investment, and research funding, with potential for additional research, milestone and royalty payments*

EMERYVILLE, CA and CAMBRIDGE, MA. -- Metagenomi, Inc., a genetic medicines company with a versatile portfolio of next-generation gene editing tools, and Moderna Inc. (NASDAQ:MRNA), a biotechnology company pioneering messenger RNA (mRNA) therapeutics and vaccines, today announced that the two companies have entered into a strategic research and development collaboration focused on advancing new gene editing systems for *in vivo* human therapeutic applications. The collaboration will utilize Metagenomi's novel gene editing tools and leverage Moderna's mRNA platform, as well as lipid nanoparticle (LNP) delivery technologies, with the goal of developing curative therapies for patients with serious genetic diseases.

"Metagenomi has demonstrated the power of its proprietary metagenomics approach that mines the Earth's natural environment to discover next-generation gene editing tools and has developed discovery capabilities with the potential to address multiple diseases," said Eric Huang, PhD, General Manager & Chief Scientific Officer, Moderna Genomics (mGx). "Their discovery platform and expertise will expand Moderna Genomics' ongoing efforts to develop innovative *in vivo* gene editing therapies to address a significant unmet medical need. This collaboration represents another milestone on our journey to create transformational genome-engineering based medicines."

"Gene editing has the potential to provide a cure for millions of patients living with genetic disease. Our partnership with Moderna is designed to accelerate the creation of genetic medicines using Metagenomi's naturally derived, compact, modular and precise gene editing systems," said Brian C. Thomas, PhD, CEO and Co-Founder of Metagenomi. "This partnership will enhance our shared vision to forge transformative therapeutics for patients."

"Unlocking the therapeutic potential of gene editing requires a long-term commitment to develop the best technologies for both *in vivo* delivery and gene repair," said Jak Knowles, MD, CBO at Metagenomi. "We share Moderna's goal to develop mRNA-based medicines, and we are thrilled to partner with them."

About the Collaboration

Under the terms of the collaboration, Metagenomi and Moderna will advance a series of *in vivo* gene editing therapeutics against undisclosed targets. Metagenomi will utilize its vast toolbox of gene editing systems in combination with Moderna's mRNA and LNP technologies, to deliver next-generation therapies for genetic diseases. Metagenomi will receive an upfront cash payment and is eligible to receive certain target option exercise fees as well as development, regulatory and commercial milestone payments, plus tiered royalties on net sales of any products that are commercialized by Moderna. Moderna has also agreed to make an equity investment in Metagenomi in the form of a convertible note.

About Metagenomi

Metagenomi is a gene editing company committed to developing potentially curative therapeutics by leveraging a proprietary toolbox of next-generation gene editing systems to accurately edit DNA where current technologies cannot. Our metagenomics-powered discovery platform and analytical expertise reveal novel cellular machinery sourced from otherwise unknown organisms. We adapt and forge these naturally evolved systems into powerful gene editing systems that are ultra-small, extremely efficient, highly specific and have a decreased risk of immune response. These systems fuel our pipeline of novel medicines and can be leveraged by partners. Our goal is to revolutionize gene editing for the benefit of patients around the world. For more information, please visit https://metagenomi.co/.

About Moderna

In 10 years since its inception, Moderna has transformed from a science research-stage company advancing programs in the field of messenger RNA (mRNA), to an enterprise with a diverse clinical portfolio of vaccines and therapeutics across six modalities, a broad intellectual property portfolio in areas including mRNA and lipid nanoparticle formulation, and an integrated manufacturing plant that allows for both clinical and commercial production at scale and at unprecedented speed. Moderna maintains alliances with a broad range of domestic and overseas government and commercial collaborators, which has allowed for the pursuit of both groundbreaking science and rapid scaling of manufacturing. Most recently, Moderna's capabilities have come together to allow the authorized use of one of the earliest and most- effective vaccines against the COVID-19 pandemic.

Moderna's mRNA platform builds on continuous advances in basic and applied mRNA science, delivery technology and manufacturing, and has allowed the development of therapeutics and vaccines for infectious diseases, immuno-oncology, rare diseases, cardiovascular diseases and autoimmune diseases. Moderna has been named a top biopharmaceutical employer by Science for the past six years. To learn more, visit www.modernatx.com.

Moderna Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including regarding: the collaboration between Moderna and Metagenomi to accelerate the development of gene editing technologies; the financial structure for that collaboration and potential for payments; and the potential development of genetic medicines using gene editing systems. The forward-looking statements in this press release are neither promises nor guarantees, and you should not place undue reliance on these forward-looking statements because they involve known and unknown risks, uncertainties, and other factors, many of which are beyond Moderna's control and which could cause actual results to differ materially from those expressed or implied by these forward-looking statements. These risks, uncertainties, and other factors include those other risks and uncertainties described under the heading "Risk Factors" in Moderna's most recent Annual Report on Form 10-K filed with the U.S. Securities and Exchange Commission (SEC) and in subsequent filings made by Moderna with the SEC, which are available on the SEC's website at www.sec.gov. Except as required by law, Moderna disclaims any intention or responsibility for updating or revising any forward-looking statements contained in this press release in the event of new information, future developments or otherwise. These forward-looking statements are based on Moderna's current expectations and speak only as of the date hereof.

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Schedule O

DT Co-Co Research Plan

[***]

Exhibit 10.7

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [***], HAS BEEN OMITTED BECAUSE IT IS NOT MATERIAL AND IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL.

COLLABORATION AND LICENSE AGREEMENT

BETWEEN

METAGENOMI, INC.

AND

IONIS PHARMACEUTICALS, INC.

DATED NOVEMBER 10, 2022

Schedules:

COLLABORATION AND LICENSE AGREEMENT

This **COLLABORATION AND LICENSE AGREEMENT** (this "**Agreement**") is entered into as of November 10, 2022 (the "**Effective Date**"), by and between Ionis Pharmaceuticals, Inc., a Delaware corporation, having its principal place of business at 2855 Gazelle Court, Carlsbad, CA 92010 (**"Ionis**"), and Metagenomi, Inc., a Delaware corporation, having its principal place of business at 1545 Park Avenue, Emeryville, CA 94608 ("**Metagenomi**"). Metagenomi and Ionis are sometimes referred to herein individually as a **"Party"** and collectively as the "**Parties.**"

WHEREAS, Metagenomi is a biopharmaceutical company that controls certain patent rights, know-how, technology, and expertise with respect to gene editing;

WHEREAS, Ionis is a biopharmaceutical company focused on developing and commercializing pharmaceutical and biopharmaceutical products;

WHEREAS, Metagenomi and Ionis desire to enter into a collaboration to utilize Metagenomi's and Ionis' expertise and each Party's platform to perform research services and other activities focused on the (a) discovery and development of therapeutics, and (b) advancing certain gene editing technologies to enable improved performance, novel mechanisms, and novel delivery strategies; and

WHEREAS, Metagenomi desires to grant to Ionis, and Ionis desires to receive from Metagenomi, an exclusive license under the Licensed Technology to Exploit Licensed Systems and Licensed Products under the terms and conditions set forth herein.

NOW, THEREFORE, the Parties agree as follows:

Article 1
Overview

The Parties intend to undertake a strategic research collaboration under this Agreement, consisting of drug discovery and exploratory research activities to advance new medicines using gene editing strategies, with the goal of discovering novel medicines for Ionis to Develop and Commercialize on its own or to co-Develop and co-Commercialize with Metagenomi.

1.1. **Drug Discovery Program**. The Parties intend that, under this Agreement, the Parties will seek to discover therapeutic products directed to specific genetic targets selected by Ionis under a Drug Discovery Program and pursuant to a Drug Discovery Plan for each specific genetic target, as permitted by this Agreement.

1.2. **Development and Commercialization**. For each Drug Discovery Program, once the Parties identify a candidate that is suitable for Development, as between the Parties, Ionis will be responsible for Development and Commercialization of products resulting from such Drug Discovery Program either on its own or, if Metagenomi exercises its option, together with Metagenomi.

1.3. **Co-Development and Co-Commercialization**. Metagenomi will have an exclusive option to co-Develop and co-Commercialize products with Ionis under a limited number of Drug Discovery Programs. For any such option exercised by Metagenomi, the Parties will enter into a separate Co-Development and Co-Commercialization Agreement, as set forth herein. Metagenomi will have a right to opt-out of such co-Development and co-Commercialization at specific times, as set forth herein.

1.4. **Exploratory Research**. The Parties will also conduct an Exploratory Research Program under this Agreement. The Parties intend that, under the Exploratory Research Program, the Parties will conduct collaborative research pursuant to an Exploratory Research Plan to jointly optimize Guide RNA and select delivery technologies and such other activities as agreed upon by the Joint Research Committee in accordance with this Agreement. Any such improvements resulting from the Parties' exploratory research under this Agreement will be incorporated into the Parties' drug discovery collaboration.

1.5. **Governance**. The Parties have agreed to form (a) a Joint Steering Committee to coordinate, oversee, and monitor the Parties' activities under this Agreement; and (b) a Joint Research Committee reporting to the JSC to coordinate, oversee, and monitor the Parties' research and drug discovery activities under this Agreement.

1.6. **Purpose**. The purpose of this Article 1 (Overview) is to provide a high-level overview of the roles, responsibilities, rights, and obligations of each Party under this Agreement, and therefore this Article 1 (Overview) is qualified in its entirety by the more detailed provisions of this Agreement set forth below.

Article 2
Collaboration

2.1. **Selection of Collaboration Targets.**

2.1.1. **Wave 1 Targets**.

(a) **Initial Wave 1 Target**. The first Collaboration Target will be [***], as set forth on Schedule 2.1.1(a) ([***]) ("[***]").

(b) **Second Wave 1 Target**. Within [***] of the Effective Date, the Parties will mutually agree on the second gene target as a Collaboration Target (the "**Second Wave 1 Target**"). The Second Wave 1 Target will be a target for which a Licensed Product would be delivered only to [***]. If the Parties do not agree on a Second Wave 1 Target within such [***] period, then the Parties will mutually agree on an additional period to determine a second gene target to be the Second Wave 1 Target.

(c) **Additional Wave 1 Target Selection**. At any time during the period commencing on the Effective Date and ending on the date that is [***] following the Effective Date ("**Additional Wave 1 Target Selection Period**"), Ionis may, in its sole discretion, but subject to Section 2.1.4 (Encumbrance Check), select up to two additional gene targets as proposed Collaboration Targets by providing written notice to Metagenomi (each such notice, the "**Additional Wave 1 Target Notice**"), which notice will identify the proposed target ("**Additional Wave 1 Target**"). The Additional Wave 1 Targets will be targets for which a Licensed Product would be delivered only to [***] or only to [***]; *provided* that no more than one Additional Wave 1 Target will be a target for which a Licensed Product would be delivered to [***].

2.1.2. **Wave 2 Target Options**. If, at any time during the Drug Discovery Term, (a) an IND for any Licensed Product directed to a Wave 1 Target is filed with the applicable Regulatory Authority or (b) the Parties achieve [***] for a [***] under the Exploratory Research Activities (the "**Wave 2 Target Selection Period**"), then Ionis may, in its sole discretion, but subject to Section 2.1.4 (Encumbrance Check), select up to four additional gene targets as proposed Collaboration Targets by providing written notice to Metagenomi (each such notice, a "**Wave 2 Target Notice**"), which notice will identify the proposed target ("Wave 2 Target"). Each Wave 2 Target will be a target for which a Licensed Product would be delivered only to [***] or only to [***], or any other [***] that has, at the time of the Wave 2 Target Notice for such Wave 2 Target, achieved [***].

2.1.3. **Target Substitutions**. On a Drug Discovery Program-by-Drug Discovery Program basis, Ionis will have the right to substitute the Collaboration Target for a Drug Discovery Program in accordance with this Section 2.1.3 (Target Substitutions).

(a) **Discretionary Substitutions**. At any time before [***] (the "**Target Substitution Period**"), Ionis may, in its sole discretion, but subject to Section 2.1.4 (Encumbrance Check), replace the Collaboration Target for such Drug Discovery Program by providing written notice to Metagenomi, which notice will identify the proposed replacement gene target. Ionis may substitute (i) up to two Wave 1 Targets other than [***] and (ii) up to two Wave 2 Targets that become Collaboration Targets, in each case ((i) and (ii)), for any reason. Any Collaboration Target that is substituted out pursuant to this Section 2.1.3(a) (Discretionary Substitutions) will [***].

(b) **Substitutions for Technological Infeasibility**. If the JSC determines that it is technologically infeasible to Develop a Development Candidate for a Collaboration Target ("**Technological Infeasibility**"), then Ionis may, in its sole discretion, but subject to Section 2.1.4 (Encumbrance Check), substitute such Collaboration Target by providing written notice to Metagenomi, which notice will identify the proposed replacement gene target. There is no limit on the number of replacements Ionis may make pursuant to this Section 2.1.3(b) (Substitutions for Technological Infeasibility) and any substitutions that are for Technological Infeasibility will not count towards the number of substitutions Ionis can make pursuant to Section 2.1.3(a) (Discretionary Substitutions). Any Collaboration Target that is substituted out pursuant to this Section 2.1.3(b) (Substitutions for Technological Infeasibility) will not be eligible to be selected as a Proposed Replacement Target except as set forth in Section 2.1.3(c) (Substitutions After Resolution of Technological Infeasibility).

(c) **Substitution After Resolution of Technological Infeasibility**. If a Collaboration Target is substituted out for Technological Infeasibility pursuant to Section 2.1.3(b) (Substitutions for Technological Infeasibility) and, during the Drug Discovery Term and within [***] from when such substitution occurred, Metagenomi later reasonably believes that it can resolve the issue that led to the Technological Infeasibility, then Metagenomi will notify Ionis, which notice will include a description of the approach Metagenomi intends to take to resolve the Technological Infeasibility. Subject to clauses (i) and (ii) of Section 2.1.4(a) (Encumbered Targets), Ionis will have the right to substitute a current Collaboration Target for such previous Collaboration Target by providing written notice to Metagenomi within [***] of receipt of notice from Metagenomi that it believes it can solve the issue that led to the Technological Infeasibility. There is no limit on the number of replacements Ionis may make pursuant to this Section 2.1.3(c) (Substitutions After Resolution of Technological Infeasibility) and any substitutions that are as a result of resolution of a Technological Infeasibility will not count towards the number of substitutions Ionis can make pursuant to Section 2.1.3(a) (Discretionary Substitutions).

(d) **Substitution Procedure**. Any written notice provided by Ionis to Metagenomi pursuant to Section 2.1.3(a) (Discretionary Substitutions), Section 2.1.3(b) (Substitutions for Technological Infeasibility), or Section 2.1.3(c) (Substitutions After Resolution of Technological Infeasibility) will be a "**Replacement Target Notice**" and the proposed replacement gene target identified in any Replacement Target Notice will be a "**Proposed Replacement Target**". Each Replacement Target Notice will specify which current Collaboration Target should be removed as a result of such replacement, and, unless otherwise agreed by the Parties, each Proposed Replacement Target will be a target for which a Licensed Product would be delivered to the same tissue as the Collaboration Target subject to the substitution. Promptly after such Proposed Replacement Target becomes a Collaboration Target pursuant to Section 2.1.4(c) (Effects if a Proposed Target is Available), Metagenomi will re-allocate the resources dedicated to the Drug Discovery Program for the Collaboration Target that was removed as a result of the substitution to the Drug Discovery Program for the new Collaboration Target as soon as practicable, but in any event within [***] after such Proposed Replacement Target becomes a Collaboration Target pursuant to Section 2.1.4(c) (Effects if a Proposed Target is Available).

2.1.4. Encumbrance Check.

(a) **Encumbered Targets**. Metagenomi will notify Ionis within [***] after Metagenomi's receipt of an Additional Wave 1 Target Notice, a Wave 2 Target Notice, or a Replacement Target Notice if, at the time of receipt of such notice, (i) Metagenomi is then engaged in *bona fide* discussions with a Third Party for an agreement, [***], pursuant to which Metagenomi would grant to such Third Party conflicting rights to Develop or Commercialize products directed to such Proposed Target such that Metagenomi could not grant Ionis the rights or licenses granted to Ionis hereunder with respect to such Proposed Target, (ii) Metagenomi is contractually obligated to grant, or has granted, to a Third Party conflicting rights to Develop or Commercialize products directed to such Proposed Target such that Metagenomi could not grant Ionis the rights or licenses granted to Ionis hereunder with respect to such Proposed Target, as evidenced by a binding written agreement, or (iii) the Proposed Target is the subject of an active *bona fide* then ongoing internal research and development program at Metagenomi, as evidenced by [***] (each of (i) through (iii), a "**Pre-Existing Restriction**" and such Proposed Target, an "**Encumbered Target**"). Notwithstanding the foregoing, a Collaboration Target that has been substituted out for Technological Infeasibility but for which Ionis later selects as a Proposed Replacement Target pursuant to Section 2.1.3(c) (Substitutions After Resolution of Technological Infeasibility) will only be an Encumbered Target if the foregoing clause (i) or clause (ii) applies with respect to such Proposed Replacement Target. If Metagenomi does not notify Ionis within such [***] period that the Proposed Target is an Encumbered Target, then Ionis may provide a second notice to Metagenomi indicating that the Proposed Target will be deemed Available if Metagenomi does not respond to such second notice within [***]. If Metagenomi (x) notifies Ionis that a Proposed Target is Available or (y) does not provide notice that a Proposed Target is an Encumbered Target

within the original [***] or within [***] after Ionis' second notice, then, in either case ((x) or (y)), such Proposed Target will be deemed to be Available, at which point Section 2.1.4(c) (Effects if a Proposed Target is Available) will apply. If a Proposed Target is an Encumbered Target, then Ionis may select another Proposed Target (and another if such other Proposed Target is an Encumbered Target and so on) until such time that Ionis selects a Proposed Target that is Available, at which point Section 2.1.4(c) (Effects if a Proposed Target is Available) will apply.

(b) **Expiration of Pre-Existing Restrictions**. On [***], Ionis will use good faith efforts to [***], to facilitate its activities pursuant to Section 4.1.5(b) (Specific Responsibilities of the JSC), [***]. If at any time during the Additional Wave 1 Target Selection Period, the Wave 2 Target Selection Period, or the Target Substitution Period, as applicable, any Pre-Existing Restriction that precluded Ionis from selecting a Proposed Target as a Collaboration Target later expires, terminates, or is otherwise modified such that such Proposed Target would no longer be an Encumbered Target, and at such time (i) Ionis has not designated the maximum amount of Collaboration Targets as permitted under this Agreement, or (ii) Ionis has designated all Collaboration Targets as permitted under this Agreement, but Ionis has not exhausted its right to substitute existing Collaboration Targets as permitted under Section 2.1.3(a) (Discretionary Substitutions), Section 2.1.3(b) (Substitutions for Technological Infeasibility), or Section 2.1.3(c) (Substitution After Resolution of Technological Infeasibility) (such time period prior to the occurrence of both (i) and (ii), the "**Target Selection and Substitution Period**"), then Metagenomi will notify Ionis of such expiration, termination, or modification unless Ionis has notified the JSC that it is no longer interested in pursuing that Encumbered Target as a Collaboration Target.

(c) **Effects if a Proposed Target is Available**. If Ionis confirms in writing to Metagenomi that a Proposed Target should be deemed to be a "Collaboration Target" under this Agreement within [***] of a Proposed Target being deemed Available pursuant to Section 2.1.4(a) (Encumbered Targets), then (i) such Proposed Target will be deemed a "Collaboration Target" as of the date of such notice, (ii) the Parties, through the JRC, will develop a Drug Discovery Plan for such Collaboration Target in accordance with Section 2.2.2 (Additional Drug Discovery Plans), (iii) if the Proposed Target was a Wave 2 Target, then Ionis will pay any Wave 2 Target Selection Fee in accordance with Section 9.2 (Wave 2 Target Selection Fee) and, if applicable, the Drug Discovery Term will be extended pursuant to Section 2.2.7 (Drug Discovery Term), and (iv) if the Proposed Target was a Proposed Replacement Target, then the Collaboration Target that was substituted out will no longer be a "Collaboration Target". If Ionis does not respond within [***] of a Proposed Target being deemed Available pursuant to Section 2.1.4(a) (Encumbered Targets), then such Proposed Target will not be deemed a "Collaboration Target".

2.2. Drug Discovery Program.

2.2.1. Initial Drug Discovery Plan. The principal Development objectives for each Drug Discovery Program will be set forth in a written plan that includes: (a) the specific activities to be performed by each Party through selection of a Development Candidate for such Drug Discovery Program, including the Gene Editing modality within the Field for such Development Candidate, (b) the estimated timelines for the performance of such activities,

and (c) the Development Candidate selection criteria (each such plan, as may be updated from time to time, a "**Drug Discovery Plan**" and the activities to be performed by the Parties thereunder, the "**Drug Discovery Activities**"). In addition, each Drug Discovery Plan will include a written budget pursuant to which Metagenomi will perform the Drug Discovery Activities allocated to Metagenomi under such Drug Discovery Plan, which budget will include (i) the number of FTEs to be dedicated by Metagenomi under such Drug Discovery Plan, and (ii) any Out-of-Pocket Costs expected to be incurred by Metagenomi in the performance of such Drug Discovery Activities on a line-item basis (each such budget, a "**Drug Discovery Budget**"). The initial Drug Discovery Plan agreed to by the Parties for [***] is attached hereto as Schedule 2.2 ([***] Drug Discovery Plan).

2.2.2. **Additional Drug Discovery Plans**. No later than [***] after (a) the Parties agree on the Second Wave 1 Target pursuant to Section 2.1.1(b) (Second Wave 1 Target) or (b) a Proposed Target is deemed a Collaboration Target under this Agreement pursuant to Section 2.1.4(c) (Effects if a Proposed Target is Available), which period shall be appropriately extended for the Parties to undertake the process described in Section 2.2.4 ([***] for Additional Drug Discovery Plans), if applicable, in each case, the Parties will develop, through the JRC, a Drug Discovery Plan for such Collaboration Target (an "**Additional Drug Discovery Plan**") in accordance with this Section 2.2.2 (Additional Drug Discovery Plans). The JRC will submit each proposed Additional Drug Discovery Plan to the JSC for the JSC to review, discuss, and determine whether to approve. Unless otherwise agreed by the Parties, the content of each Additional Drug Discovery Plan will be consistent in scale and scope to that set forth in the Drug Discovery Plan for [***] attached hereto as Schedule 2.2 ([***] Drug Discovery Plan).

2.2.3. **Amendments to the Drug Discovery Plans**. At least [***] during the Drug Discovery Term, or upon either Party's request, the JRC will develop and propose updates to each Drug Discovery Plan; *provided* that in no event will those updates include [***] the applicable Collaboration Target unless such [***] pursuant to Section 2.2.5 (Development of [***] for a Drug Discovery Program). Any proposed updates to a Drug Discovery Plan will be submitted to the JSC for approval. The JSC will review, discuss, and determine whether to approve any such proposed update to a Drug Discovery Plan. Each such update to a Drug Discovery Plan will become effective and will supersede the previous Drug Discovery Plan for the applicable Drug Discovery Program upon approval thereof by the JSC.

2.2.4. [***] for Additional Drug Discovery Plans.

(a) **New** [***]. At each JSC meeting during the Target Selection and Substitution Period, Metagenomi will use good faith efforts to notify Ionis if it reasonably believes that [***] (each such [***]). In addition, [***].

(b) **Selection of** [***]. The JSC will discuss and determine the [***] for the Second Wave 1 Target and each Proposed Target that is deemed a Collaboration Target under this Agreement pursuant to Section 2.1.4(c) (Effects if a Proposed Target is Available) from the [***], and, subject to Section 2.2.4(c) (Incremental Development Costs), such [***] will be set forth in the applicable Additional Drug Discovery Plan determined pursuant to Section 2.2.2 (Additional Drug Discovery Plans). For clarity, if the JSC selects for inclusion in an Additional Drug Discovery Plan [***], then Section 2.2.4(c) (Incremental Development Costs) is not applicable and [***] for the applicable Drug Discovery Program.

(c) **Incremental Development Costs**. If, in connection with the JRC's discussion and development of an Additional Drug Discovery Plan, Ionis is considering, in good faith, selecting [***] for the applicable Drug Discovery Program and such [***], then Ionis will notify Metagenomi (an "**Initial Interest Notice**" and the [***] identified in such notice, a "[***]"). If Metagenomi reasonably believes that the costs to progress a Drug Discovery Plan for the applicable Collaboration Target with the [***] are more than [***] of the costs to progress a Drug Discovery Plan for a [***] (the difference between the costs to progress a Drug Discovery Plan for a [***] *versus* the costs to progress a Drug Discovery Plan for the [***], the "**Incremental Development Costs**"), then Metagenomi will notify Ionis of such Incremental Development Costs (an "**Increased Cost Notice**") within [***] of receipt of the Initial Interest Notice. For a period of [***] from Ionis' receipt of the Increased Cost Notice, the Parties will use Commercially Reasonable Efforts to negotiate, in good faith, economic terms that compensate Metagenomi for the Incremental Development Costs. If the Parties are unable to mutually agree on such financial compensation during such [***] period, then, at Ionis' election, (i) Ionis may select a different [***] and the process set forth in this Section 2.2.4(c) (Incremental Development Costs) will continue to apply until (1) the Parties agree on financial terms to compensate Metagenomi for the applicable Incremental Development Costs for [***], (2) Metagenomi does not provide an Increased Cost Notice for a [***], or (3) the [***], or (ii) Ionis may select a [***]. If the Parties mutually agree on the economic terms [***] or if Metagenomi has not provided an Increased Cost Notice to Ionis for a [***] as set forth above, then, in either case, such [***] will be set forth in the applicable Drug Discovery Plan, [***], and such mutually agreed economic terms will be set forth in a written agreement between the Parties.

2.2.5. **Development of** [***] **for a Drug Discovery Program**. If either Party wishes to Develop a Licensed Product comprising a [***] that is not already set forth in the Drug Discovery Plan for such Drug Discovery Program, then such Party may propose such additional activities to the other Party and the Parties will discuss whether to amend such Drug Discovery Plan or create a separate Drug Discovery Program for such [***]. If the Parties agree to include the additional [***] in the Drug Discovery Program, then the Parties will enter into a mutually acceptable amended Drug Discovery Plan that includes the additional [***]. For clarity, neither Party will have any obligation to agree to amend a Drug Discovery Plan to include any additional [***] that were not set forth in the initial Drug Discovery Plan for the applicable Drug Discovery Program.

2.2.6. **Delivery of Development Candidate; Development Candidate Report**. The objective of each Drug Discovery Plan will be to identify both a lead and a backup candidate for development that each meet the development candidate criteria set forth in such Drug Discovery Plan. No later than [***] after completion by the Parties of all Drug Discovery Activities set forth under the applicable Drug Discovery Plan with respect to each Collaboration Target, or such earlier time mutually agreed upon by the Parties, each Party will deliver to the JSC a report summarizing all results, information, and data that were generated in connection with the performance of the Drug Discovery Activities under such Drug Discovery Plan, including information regarding any therapeutic agents that meet the development candidate criteria (each, a "**Development Candidate Report**"). Following receipt of the Development Candidate Reports, and at such earlier times that the Parties have exchanged data and results regarding any therapeutic agent that meets the development candidate criteria set forth in the applicable Drug Discovery Plan, the JSC will review and discuss such Development Candidate Reports and other data and results, and Ionis may, in its sole discretion, elect to designate one or more such therapeutic agents as Development Candidates hereunder (regardless of whether any such therapeutic agents meet the development candidate criteria).

2.2.7. **Drug Discovery Term**. On a Drug Discovery Program-by-Drug Discovery Program basis, the Drug Discovery Activities for a Drug Discovery Program will be performed by or on behalf of the Parties during the period commencing on the selection of a Collaboration Target for such Drug Discovery Program and, unless this Agreement is earlier terminated with respect to such Collaboration Target, expiring upon the earlier of (a) completion of all Drug Discovery Activities set forth in the Drug Discovery Plan for such Drug Discovery Program and presentation to the JSC of such Drug Discovery Activities, (b) the fifth anniversary of the Effective Date, and (c) selection of a Development Candidate for such Drug Discovery Program (the "**Drug Discovery Term**"); *provided* that (x) if one or more Wave 2 Targets become Collaboration Targets in accordance with Section 2.1 (Selection of Collaboration Targets) as a result of the Parties achieving Enabled Delivery for the tissue that such Wave 2 Target is delivered to and less than two years are remaining in the Drug Discovery Term for such Wave 2 Target, then clause (b) will be extended to the earlier of (i) the time that Metagenomi completes all of its activities under the applicable Drug Discovery Plan for such Wave 2 Target, and (ii), with Metagenomi's consent, not to be unreasonably withheld, delayed, or conditioned (taking into account whether it is substantially likely that a Development Candidate will be identified and designated for such Wave 2 Target during any extended Drug Discovery Term and the resources that Metagenomi will need to reasonably allocate to applicable Drug Discovery Term activities), the seventh anniversary of the Effective Date.

2.3. Exploratory Research Program.

2.3.1. **Exploratory Research Plan**. The principal Development objectives to enable improved Guide RNA, [***] delivery strategies, and any other Development activities that the JRC agrees to include pursuant to any amendment under Section 2.3.2 (Amendments to the Exploratory Research Plan) (the "**Exploratory Research Program**") will be set forth in a written plan that includes: (a) the specific activities to be performed by each Party and (b) the estimated timelines for the performance of such activities (such plan, as may be updated from time to time, the "**Exploratory Research Plan**" and the activities to be performed by the Parties thereunder, the "**Exploratory Research Activities**"). In addition, the Exploratory Research Plan will include a written budget pursuant to which Metagenomi will perform the Exploratory Research Activities allocated to Metagenomi under such Exploratory Research Plan, which budget will include (i) the number of FTEs to be dedicated by Metagenomi under the Exploratory Research Plan, and (ii) any Out-of-Pocket Costs expected to be incurred by Metagenomi in the performance of such Exploratory Research Activities on a line-item basis (the "**Exploratory Research Budget**"). The initial Exploratory Research Plan is set forth on Schedule 2.3.1 (Exploratory Research Plan).

2.3.2. **Amendments to the Exploratory Research Plan**. At least annually during the Exploratory Research Term no later than [***] of each Calendar Year, or upon either Party's request, the JRC will develop and propose updates to the Exploratory Research Plan or Exploratory Research Budget for the next fiscal year, or such other period as the Parties may mutually agree, and will submit any such proposed change to the JSC. Additionally, at any time during the Exploratory Research Term, the JRC may develop and propose *ad hoc* updates to the Exploratory Research Plan or Exploratory Research Budget

based on the then-current results and data. The JSC will review, discuss, and determine whether to approve any such proposed change to the Exploratory Research Plan or Exploratory Research Budget. Each such update to the Exploratory Research Plan or Exploratory Research Budget will become effective and will supersede the previous Exploratory Research Plan or Exploratory Research Budget upon approval thereof by the JSC.

2.3.3. **Exploratory Research Term**. The Exploratory Research Activities will be performed by or on behalf of the Parties during the period commencing on the Effective Date and, unless this Agreement is earlier terminated with respect to the Exploratory Research Program, expiring upon the earlier of (a) completion of all Exploratory Research Activities set forth in the Exploratory Research Plan, and (b) the fifth anniversary of the Effective Date (the "**Exploratory Research Term**").

2.4. **Conduct of Collaboration Activities**. Each Party, directly or through its Affiliates or, subject to Section 3.3 (Subcontractors), Subcontractors, will use Commercially Reasonable Efforts to conduct the Drug Discovery Activities and Exploratory Research Activities (collectively, the "**Collaboration Activities**") assigned to it under the applicable Drug Discovery Plan or Exploratory Research Plan (collectively, the "**Collaboration Program Plans**") and in a professional and timely manner. Each Party will, and will require its Affiliates and Subcontractors to, perform its obligations under the Collaboration Program Plans in compliance with Applicable Law.

2.5. Cost of Collaboration Activities.

2.5.1. **Reimbursement by Ionis**. Ionis will reimburse Metagenomi for all (a) Internal Costs and (b) Out-of-Pocket Costs (provided with reasonable supporting documentation), in each case ((a) and (b)), actually incurred by Metagenomi in the performance of the Exploratory Research Activities during the Exploratory Research Term to the extent in compliance with both the Exploratory Research Plan and the amounts budgeted therefor in the Exploratory Research Budget [***] (such amount, the "**Metagenomi Exploratory Research Costs**") up to $10,000,000 in the aggregate (the "**Reimbursement Cap**"). If the aggregated Metagenomi Exploratory Research Costs during the Exploratory Research Term are *less* than the Reimbursement Cap, then Ionis will also reimburse Metagenomi for all (1) Internal Costs and (2) Out-of-Pocket Costs (provided with reasonable supporting documentation), in each case ((1) and (2)), actually incurred by Metagenomi in the performance of the Drug Discovery Activities during the Exploratory Research Term to the extent in compliance with both the applicable Drug Discovery Plans and the amounts budgeted therefor in the applicable Drug Discovery Budgets [***] ("**Metagenomi Drug Discovery Costs**") up to [***]. In each Calendar Quarter during the Exploratory Research Term, unless and until Ionis' aggregated payments under this Section 2.5.1 (Reimbursement by Ionis) reach the Reimbursement Cap, Ionis will pay Metagenomi $500,000 to cover the Metagenomi Exploratory Research Costs and, if applicable, the Metagenomi Drug Discovery Costs for such Calendar Quarter (such amount, the "**Quarterly Reimbursement Payments**"), within [***] following receipt of an invoice from Metagenomi therefor. No later than [***] following the conclusion of each [***] during the Exploratory Research Term, Metagenomi will provide to Ionis a written report of all Metagenomi Exploratory Research Costs and Metagenomi Drug Discovery Costs incurred by or on behalf of Metagenomi during the applicable [***] (such reports, the "**Metagenomi Collaboration Cost Reports**"). If the amount set forth in the Metagenomi Collaboration Cost Report for a [***], then no further action is required by the Parties, except that [***]. If the amount set forth in the Metagenomi Collaboration Cost Report for [***], then [***]under this Section 2.5.1 (Reimbursement by Ionis). For clarity, Ionis will have the right to [***].

2.5.2. **Cost of Other Collaboration Activities**. Except with respect to amounts reimbursed by Ionis pursuant to Section 2.5.1 (Reimbursement by Ionis), Metagenomi will be responsible for all costs and expenses incurred by or on behalf of Metagenomi in the performance of the Collaboration Activities allocated to Metagenomi in the applicable Collaboration Program Plans, including in the performance of all Drug Discovery Activities after the expiration of the Exploratory Research Term. In addition, Ionis will be responsible for all costs and expenses incurred by or on behalf of Ionis in the performance of the Collaboration Activities allocated to Ionis in the applicable Collaboration Program Plans.

2.6. Collaboration Program Records and Reports.

2.6.1. **Records**. Each Party will maintain, or cause to be maintained, records of its Collaboration Activities in sufficient detail and in a good scientific manner appropriate for scientific, patent, and regulatory purposes, which records will reasonably reflect the work performed by such Party under each Collaboration Program Plan.

2.6.2. **Collaboration Program Reports**. During the Collaboration Term, in advance of each meeting of the JSC (unless otherwise agreed by the JSC), each Party will submit to the JSC for its review and discussion written materials that include a reasonably detailed summary of the Collaboration Activities performed by or on behalf of such Party during the most recently completed Calendar Quarter, which summary will include an estimate of the number of personnel that are performing Collaboration Activities for such Party in such Calendar Quarter (each, a "**Collaboration Program Report**").

2.7. Ionis Proprietary Toolbox of Chemical Modifications.

2.7.1. **Option Grant**. If any Ionis Proprietary Toolbox of Chemical Modifications is necessary or reasonably useful for Metagenomi to practice any Metagenomi Collaboration Technology or Joint Collaboration Technology (such Intellectual Property Rights, "**Ionis Background Technology**"), then Metagenomi will have an option to obtain the license set forth in Section 3.2.3(a) (Ionis Background Technology License Grant) to Exploit up to eight Metagenomi Products in the Field ("**Ionis IP Option**"). [***].

2.7.2. **Option Exercise**. Metagenomi may exercise an Ionis IP Option by providing written notice to Ionis ("**Option Exercise Notice**") at any time during the period commencing on [***] and ending on [***] after the expiration of the [***] of the Effective Date (the "**Option Term**"), which notice will identify one or more targets that Metagenomi proposes to designate as Metagenomi Targets to which the applicable Metagenomi Product will be directed (each, a "**Proposed Metagenomi Target**" and such notice, a "**Proposed Metagenomi Target Notice**").

2.7.3. **Encumbrance Check**.

(a) **Encumbered Targets**. Ionis will notify Metagenomi within [***] after Ionis' receipt of a Proposed Metagenomi Target Notice if, at the time of receipt of such notice, (i) [***], (ii) [***], or (iii) [***] (each of (i) through (iii), a "**Pre-Existing Ionis Restriction**" and such Proposed Metagenomi Target, an "**Encumbered Proposed Metagenomi Target**").

(b) **Effects if a Proposed Metagenomi Target is not an Encumbered Proposed Metagenomi Target**. If Ionis does not notify Metagenomi within [***] after Ionis' receipt of a Proposed Metagenomi Target Notice that the applicable Proposed Metagenomi Target is an Encumbered Proposed Metagenomi Target, then Metagenomi may provide a second notice to Ionis indicating that the Proposed Metagenomi Target will be deemed a "Metagenomi Target" if Ionis does not respond to such second notice within [***]. If Ionis (i) notifies Metagenomi that a Proposed Metagenomi Target is not an Encumbered Proposed Metagenomi Target or (ii) does not provide notice that a Proposed Metagenomi Target is an Encumbered Proposed Metagenomi Target within the original [***] period or within [***] after Metagenomi's second notice (such date, the "**Ionis IP Option Effective Date**"), then, in either case, (A) the Proposed Metagenomi Target will automatically be deemed to be a "Metagenomi Target" under this Agreement with no further action by the Parties, and (B) the license to Metagenomi under Section 3.2.3(a) (Ionis Background Technology License Grant) will be effective with respect to Metagenomi Products for such Metagenomi Target.

2.7.4. I**onis Background Technology Transfer**. On a Metagenomi Target-by-Metagenomi Target basis, no later than [***] after the Ionis IP Option Effective Date for each Metagenomi Target, Ionis will transfer to Metagenomi all Ionis Background Technology that is necessary or determined by Ionis in good faith to be reasonably useful, in each case, for Metagenomi to Exploit the applicable Metagenomi Product for such Metagenomi Target in the Field.

Article 3
Licenses; Exclusivity

3.1. License Grants to Ionis.

3.1.1. Collaboration Activities License.

(a) **Collaboration Activities License Grant**. Subject to the terms of this Agreement, Metagenomi hereby grants to Ionis and its Affiliates a non-exclusive, royalty-free license, with the right to sublicense through multiple tiers (subject to Section 3.1.1(b) (Sublicensing by Ionis)), under the Licensed Technology to perform (or have performed in accordance with this Agreement) all Collaboration Activities allocated to Ionis under each Collaboration Program Plan during the Collaboration Term.

(b) **Sublicensing by Ionis**. Ionis may grant sublicenses of any rights granted by Metagenomi under Section 3.1.1(a) (Collaboration Activities License Grant) through multiple tiers to any of its Affiliates or to one or more Subcontractors that are not [***]. Each such sublicense will be consistent with the terms of this Agreement and will require such Sublicensee to comply with all applicable terms of this Agreement. Ionis will remain responsible for its Sublicensees' compliance with the applicable terms of this Agreement.

3.1.2. Exclusive Exploitation License.

(a) **Exclusive Exploitation License Grant**. Subject to the terms of this Agreement, Metagenomi hereby grants to Ionis and its Affiliates an exclusive, royalty-bearing license, with the right to sublicense through multiple tiers (subject to Section 3.1.2(c) (Sublicensing by Ionis)), under the Licensed Technology to Exploit all Licensed Systems and Licensed Products solely in the Field in the Territory.

(b) **Limitations**. Notwithstanding the license granted to Ionis pursuant to Section 3.1.1(a) (Collaboration Activities License Grant) and Section 3.1.2(a) (Exclusive Exploitation License Grant), subject to the terms of this Agreement, Metagenomi will retain non-exclusive rights under the Licensed Technology in the Field in the Territory for the sole purpose of performing the Metagenomi Activities or fulfilling its obligations under this Agreement, in each case, either itself or through its Affiliates, or Subcontractors. For clarity, Metagenomi will retain all rights under the Licensed Technology and Licensed Systems for use outside of the Field.

(c) **Sublicensing by Ionis**. Ionis may grant sublicenses of any rights granted by Metagenomi under Section 3.1.2(a) (Exclusive Exploitation License Grant) through multiple tiers to any of its Affiliates or to one or more Sublicensees without the consent of Metagenomi; *provided* that such Sublicensees are not [***]. Each such sublicense will be consistent with the terms of this Agreement and will require such Sublicensee to comply with all applicable terms of this Agreement. Ionis will remain responsible for its Sublicensees' compliance with the applicable terms of this Agreement. Promptly following Ionis' grant of a sublicense to a Sublicensee, Ionis will notify Metagenomi of such sublicense. Upon Metagenomi's written request, Ionis will provide Metagenomi with a fully-executed copy of any agreement reflecting any such sublicense (excluding any sublicense with an Affiliate of Ionis' or any Third Party acting on Ionis' behalf), which may be reasonably redacted to exclude Ionis' proprietary information, other competitively sensitive information, or any other information not necessary for Metagenomi to verify compliance with the preceding sentence, which copy will be treated as Ionis' Confidential Information.

3.1.3. Unblocking License.

(a) **Unblocking License Grant**. Subject to the terms of this Agreement, including the license granted pursuant to Section 3.1.2(a) (Exclusive Exploitation License Grant), Metagenomi hereby grants to Ionis and its Affiliates a [***] non-exclusive license, with the right to sublicense through multiple tiers (subject to Section 3.1.3(b) (Sublicensing by Ionis)), under Metagenomi's interest in the Joint Collaboration Technology [***] in the Unblocking Field in the Territory.

(b) **Sublicensing by Ionis**. Ionis may grant sublicenses of any rights granted by Metagenomi under Section 3.1.3(a) (Unblocking License Grant) through multiple tiers to any of its Affiliates or to one or more Sublicensees to which Ionis grants a license to [***]. Each such sublicense will be consistent with the terms of this Agreement and will require such Sublicensee to comply with all applicable terms of this Agreement. Ionis will remain responsible for its Sublicensees' compliance with the applicable terms of this Agreement.

3.2. License Grants to Metagenomi.

3.2.1. Metagenomi Activities License.

(a) **Metagenomi Activities License Grant.** Subject to the terms of this Agreement, Ionis hereby grants to Metagenomi a non-exclusive, royalty-free license, with the right to sublicense through multiple tiers (subject to the provisions of Section 3.2.1(b) (Sublicensing by Metagenomi)), under the Ionis Licensed Technology solely to perform the Collaboration Activities assigned to Metagenomi under the Collaboration Program Plans (the "**Metagenomi Activities**").

(b) **Sublicensing by Metagenomi**. Metagenomi may grant sublicenses of any rights granted by Ionis under Section 3.2.1(a) (Metagenomi Activities License Grant) through multiple tiers to any of its Affiliates or to one or more Subcontractors that are not [***]. Each such sublicense will be consistent with the terms of this Agreement and will require such Sublicensee to comply with all applicable terms of this Agreement. Metagenomi will remain responsible for each Sublicensee's compliance with the applicable terms of this Agreement.

3.2.2. Unblocking License.

(a) **Unblocking License Grant**. Subject to the terms of this Agreement, Ionis hereby grants to Metagenomi and its Affiliates a [***] non-exclusive license, with the right to sublicense through multiple tiers (subject to Section 3.2.2(b) (Sublicensing by Metagenomi)), under Ionis' interest in the Joint Collaboration Technology [***] in the Unblocking Field in the Territory.

(b) **Sublicensing by Metagenomi**. Metagenomi may grant sublicenses of any rights granted by Ionis under Section 3.2.2(a) (Unblocking License Grant) through multiple tiers to any of its Affiliates or to one or more Sublicensees to which Metagenomi grants a license to [***]. Each such sublicense will be consistent with the terms of this Agreement and will require such Sublicensee to comply with all applicable terms of this Agreement. Metagenomi will remain responsible for its Sublicensees' compliance with the applicable terms of this Agreement.

3.2.3. Ionis Background Technology License.

(a) **Ionis Background Technology License Grant**. Subject to Section 2.7 (Ionis Proprietary Toolbox of Chemical Modifications), effective upon the Ionis IP Option Effective Date for a Metagenomi Target, Ionis hereby grants to Metagenomi a non-exclusive, royalty-bearing license with the right to grant sublicenses through multiple tiers (subject to Section 3.2.3(b) (Sublicensing by Metagenomi)) under the Ionis Background Technology solely to Exploit Metagenomi Products for such Metagenomi Target in the Field.

(b) **Sublicensing by Metagenomi**. Metagenomi may grant sublicenses of any rights granted by Ionis under Section 3.2.3(a) (Ionis Background Technology License Grant) through multiple tiers to any of its Affiliates or to one or more Sublicensees to which Metagenomi grants a license to Exploit the Metagenomi Products; *provided* that such Sublicensees are not [***]. Each such sublicense will be consistent with the terms of this Agreement and will require such Sublicensee to comply with all applicable terms of this Agreement. Metagenomi will remain

responsible for its Sublicensees' compliance with the applicable terms of this Agreement. Promptly following Metagenomi's grant of a sublicense to a Sublicensee, Metagenomi will notify Ionis of such sublicense. Upon Ionis' written request, Metagenomi will provide Ionis with a fully-executed copy of any agreement reflecting any such sublicense (excluding any sublicense with an Affiliate of Metagenomi), which may be reasonably redacted to exclude Metagenomi's proprietary information, other competitively sensitive information, or any other information not necessary for Ionis to verify compliance with the preceding sentence, which copy will be treated as Metagenomi's Confidential Information.

3.3. **Subcontractors.** Each Party and its Affiliates may perform any of its obligations under this Agreement through one or more Subcontractors; *provided* that (a) neither Party nor its Affiliates will engage any subcontractor that has been debarred by any Regulatory Authority; (b) the subcontracting Party remains fully responsible for the work allocated to, and payment to, such subcontractors to the same extent it would if it had done such work itself; (c) the subcontractor undertakes in writing obligations of confidentiality and non-use applicable to the Confidential Information that are at least as stringent as those set forth in Article 11 (Confidentiality) other than the term of any such confidentiality obligation, which will be customary for the nature of the Subcontractor; (d) require such Subcontractor and its personnel to assign (or, if such Party, after using Commercially Reasonable Efforts, cannot obtain an assignment, then to grant a perpetual license) to such Party of all rights, title, and interests in and to any Patent Rights or Know-How created, conceived, or developed in connection with the performance of subcontracted activities; *provided* that such Subcontractor and its personnel will not be required to assign its rights, title, and interests to any of its background intellectual property or improvements thereto; (e) the subcontracting Party will be liable for any act or omission of any Subcontractor that is a breach of any of the subcontracting Party's obligations under this Agreement as though the same were a breach by the subcontracting Party; (f) each Party will use good faith efforts to identify in writing to the other Party any Subcontractor that it engages to perform Collaboration Activities and will only engage Subcontractors to perform the Collaboration Activities to the extent and in a manner consistent with such Party's engagement of subcontractors for other internal Development programs; (g) Ionis [***]; and (h) Metagenomi [***].

3.4. **Technology Transfer.**

3.4.1. **Initial Transfers**. On a Collaboration Target-by-Collaboration Target basis, no later than (a) for [***] after the Effective Date and (b) for each new Collaboration Target, [***] after the applicable target becomes a Collaboration Target pursuant to Section 2.1.1(b) (Second Wave 1 Target) or Section 2.1.4(c) (Effects if a Proposed Target is Available), each Party will transfer to the other Party all Ionis Licensed Technology or Licensed Technology (as applicable), with respect to [***], as of the Effective Date, or, with respect to Collaboration Targets that become such after the Effective Date, at the time that a target becomes a Collaboration Target, in each case, that is [***] to perform the activities allocated to the non-transferring Party under the Drug Discovery Plan for the applicable Collaboration Target. In addition, each Party will transfer to the other Party all Ionis Licensed Technology or Licensed Technology (as applicable) that is [***] for the non-transferring Party to perform the activities allocated to the non-transferring Party under the Exploratory Research Plan no later than [***] after the Effective Date.

3.4.2. **Additional Transfers**. Following the initial transfers described in Section 3.4.1 (Initial Transfers), (a) promptly after [***] and (b) [***], Metagenomi will provide prompt updates to Ionis regarding any Licensed Know-How not previously transferred to Ionis that is [***] for Ionis to continue Exploiting the Licensed Systems and Licensed Products, in each case, that relate to the Development Candidates being Exploited, or that Ionis, at such time, intends to Exploit, under this Agreement. During the Term, as reasonably requested by Ionis, Metagenomi will promptly provide Ionis with any information specifically identified by Ionis and included in the Licensed Technology that is [***] for Ionis to Exploit the Licensed Systems or Licensed Products that relate to the Development Candidates being Exploited, or that Ionis, at such time, intends to Exploit, and has not previously been transferred to Ionis under this Agreement. Metagenomi will provide such information to Ionis within [***] after Ionis' request.

3.4.3. **Assistance by Metagenomi Personnel**. To assist with the transfer of Licensed Know-How under this Section 3.4 (Technology Transfer) and Ionis' Exploitation thereof in accordance with the terms of this Agreement during the Term, Metagenomi will make its personnel reasonably available to Ionis during normal business hours to transfer such Licensed Know-How to Ionis and respond to Ionis' reasonable inquiries with respect thereto.

3.4.4. **Costs of Support**. On a Collaboration Program-by-Collaboration Program basis, Metagenomi will provide the first [***] FTE hours of technology transfer, or technical or regulatory assistance under this Section 3.4 (Technology Transfer), Section 7.2.2 (Assistance; Support) and Section 7.3 (Regulatory Support) for a Collaboration Program at Metagenomi's cost and expense. On a Collaboration Program-by-Collaboration Program basis, for any such assistance in excess of [***] FTE hours for a Collaboration Program, Ionis will reimburse Metagenomi for its reasonable, documented Internal Costs with respect thereto within [***] of receipt of a reasonably detailed invoice therefor.

3.5. **No Implied Licenses**. Except as expressly provided in this Agreement, neither Party will be deemed to have granted the other Party any license or other right with respect to any Intellectual Property Rights of such Party.

3.6. **Exclusivity**.

3.6.1. **Exclusivity Obligations**. Subject to Section 3.6.2 (Acquisition of Distracting Product) and Section 3.6.3 (Change of Control), except in the performance of its obligations or exercise of its rights under this Agreement, neither Party nor any of its Affiliates will work independently or for or with any Third Party (including the grant of any license to any Third Party) to:

(a) on a Drug Discovery Program-by-Drug Discovery Program basis, (i) during the Drug Discovery Term for a Drug Discovery Program, Develop or Commercialize any product that targets the Collaboration Target in the Exclusivity Field, and (ii) until the earlier of the (1) [***] period after the expiration of the Drug Discovery Term for a Drug Discovery Program or (2) [***] period after the Effective Date, clinically Develop or Commercialize any product that targets a Collaboration Target in the Exclusivity Field that is actively being Developed by Ionis under this Agreement for such Drug Discovery Program; and

(b) on a Co-Co Program-by-Co-Co Program basis, during the period commencing on the date [***] and expiring [***], Develop or Commercialize any product that targets the Collaboration Target for such Co-Co Program in the Exclusivity Field. For clarity, the limitations set forth in this Section 3.6.1 (Exclusivity Obligations) will not apply to any Collaboration Target that is substituted out in accordance with Section 2.1.3 (Target Substitutions).

3.6.2. **Acquisition of Distracting Product**. Notwithstanding the provisions of Section 3.6.1 (Exclusivity Obligations), if a Party or any of its Affiliates (such Party, the "**Distracted Party**") acquires rights to Develop or Commercialize a product in the Field as the result of a merger, acquisition, or combination with or of a Third Party (where such Party is not the acquired entity) other than a Change of Control (each, an "**Acquisition Transaction**") and, on the date of the closing of such Acquisition Transaction, such product is being Developed or Commercialized and such activities would, but for the provisions of this Section 3.6.2 (Acquisition of Distracting Product), constitute a breach of Section 3.6.1 (Exclusivity Obligations) (such product, a "**Distracting Product**"), then the Distracted Party or such Affiliate will, within [***] after the closing of such Acquisition Transaction notify the other Party in writing of such acquisition and either:

(a) request that such Distracting Product be included in this Agreement on terms to be negotiated, in which case, the Parties will discuss the matter in good faith for a period of no less than [***] and, if the Parties are unable to reach agreement on the terms on which such Distracting Product would be included hereunder within such period, then the Distracted Party will elect to take the action specified in either Section 3.6.2(b) or Section 3.6.2(c) below; *provided* that the time periods specified in such clauses will be tolled for so long as the Parties are engaged in good faith discussion under this Section 3.6.2(a);

(b) notify the other Party in writing that the Distracted Party or its Affiliate will [***], in which case, within [***] after the closing of the Acquisition Transaction, the Distracted Party or its Affiliate will [***]; or

(c) notify the other Party in writing that it [***], in which case, within [***] after the other Party's receipt of such notice, the Distracted Party and its Affiliates will [***].

During the discussion period under Section 3.6.2(a), prior to the time of [***] to Section 3.6.2(b), or prior to the [***] pursuant to Section 3.6.2(c), as applicable, the Distracted Party and its Affiliates will segregate all activities relating to the Distracting Product from the Exploitation of the Licensed Systems or Licensed Products under this Agreement, including ensuring that (i) no personnel involved in performing Development or Commercialization activities with respect to such Distracting Product have access to non-public plans or information relating to the Development or Commercialization of Licensed Systems or Licensed Products under this Agreement (except that [***]), and (ii) no personnel involved in performing Development or Commercialization activities with respect to Licensed Systems or Licensed Products under this Agreement have access to non-public plans or information relating to the Development or Commercialization of such Distracting Product (except that [***]). The procedures set forth in clauses (i) and (ii) above will be referred to as "**Firewall Procedures**" for the purposes of this Agreement.

3.6.3. **Change of Control**. If there is a Change of Control involving a Party (where such Party is the acquired entity), then:

(a) the obligations of Section 3.6.1 (Exclusivity Obligations) will not apply to any product that is controlled by the relevant acquirer or its Affiliates and that exists prior to the closing of such Change of Control; provided that (i) the acquired Party and the acquirer and its Affiliates existing immediately prior to the effective date of such Change of Control [***], (ii) the acquirer and its Affiliates existing immediately prior to the effective date of such Change of Control [***], and (iii) no personnel who were employees or consultants of the acquired Party or its Affiliates at any time prior to or after the Change of Control will [***];

(b) if Ionis is the acquired entity and the acquiring entity is a [***], then Ionis will ensure that the acquiring entity establishes and implements Firewall Procedures to segregate and protect Confidential Information related to the Licensed Systems and Licensed Products from access to or use by the acquiring party other than as permitted by this Agreement; and

(c) if Metagenomi is the acquired entity and the acquiring entity is an [***], then Metagenomi will ensure that the acquiring entity establishes and implements Firewall Procedures to segregate and protect Confidential Information related to the Licensed Systems, Licensed Products, and Ionis Background Technology from access to or use by the acquiring party other than as permitted by this Agreement.

Article 4
Governance

4.1. **Joint Steering Committee.**

4.1.1. **Formation and Purpose of the JSC**. Promptly, but no later than [***] after the Effective Date, the Parties will establish a Joint Steering Committee ("**JSC**"), which JSC will coordinate, oversee, and monitor the Parties' activities hereunder in accordance with this Section 4.1 (Joint Steering Committee). The JSC will have the responsibilities set forth herein and will have no further responsibilities (a) with respect to the Exploratory Research Program, upon the expiration of the Exploratory Research Term, and (b) with respect to any Drug Discovery Program, upon the expiration of the Drug Discovery Term for such Drug Discovery Program. Upon the latest to occur of (a)-(b), the JSC will be dissolved.

4.1.2. **Membership**. Each Party will designate [***] representatives with appropriate expertise and seniority to serve as members of the JSC, and who have the authority to bind such Party with respect to matters within the purview of the JSC. Each Party may replace its JSC representatives at any time upon written notice to the other Party. Metagenomi will designate one of its JSC members as one of the co-chairpersons of the JSC and Ionis will designate one of its members as the other co-chairperson of the JSC. Every [***] the co-chairpersons will alternate serving in the role of "lead co-chairperson." The lead co-chairperson or his or her designee, in collaboration with the Alliance Managers, will be responsible for calling meetings, preparing and circulating an agenda in advance of each meeting, and preparing and issuing minutes of each meeting within [***]thereafter. Such minutes will be deemed finalized unless any JSC member objects to the accuracy of such minutes no later than [***] after receipt of such minutes.

4.1.3. **Meetings**. The JSC will meet in person, by videoconference, or by teleconference at least once each [***], unless otherwise agreed by the Parties, on such dates and at such times and places as agreed to by the members of the JSC. The Alliance Manager of each Party will attend each meeting of the JSC as a non-voting participant. Each Party will be responsible for all of its own expenses in participating in any JSC meeting.

4.1.4. **Meeting Agendas**. Each Party will disclose to the other Party the proposed agenda items at least [***] in advance of each meeting of the JSC. Notwithstanding the foregoing, under exigent circumstances requiring JSC input, a Party may provide its agenda items to the other Party within a lesser period of time in advance of the meeting, or may propose that there not be a specific agenda for a particular meeting, so long as such other Party consents to such later addition of such agenda items or the absence of a specific agenda for such JSC meeting.

4.1.5. **Specific Responsibilities of the JSC**. The responsibilities of the JSC will be to:

(a) oversee the overall strategic relationship between the Parties;

(b) review, discuss, and determine whether it is technologically infeasible to Develop a Development Candidate for a given Collaboration Target, as described in Section 2.1.3(b) (Substitutions for Technological Infeasibility);

(c) review, discuss, and determine whether to approve each Drug Discovery Plan, and any updates thereto, pursuant to Section 2.2.2 (Additional Drug Discovery Plans) and Section 2.2.3 (Amendments to the Drug Discovery Plans);

(d) discuss and determine the [***] for the Second Wave 1 Target and each Proposed Target that is deemed a Collaboration Target under this Agreement pursuant to Section 2.1.4(c) (Effects if a Proposed Target is Available), as described in Section 2.2.4(b) (Selection of Gene Editing Modalities);

(e) review and discuss each Development Candidate Report and any other data or results provided by Metagenomi regarding therapeutic agents that meet the development candidate criteria set forth in a Drug Discovery Plan, pursuant to Section 2.2.6 (Delivery of Development Candidate; Development Candidate Report);

(f) review, discuss, and determine whether to approve any updates to the Exploratory Research Plan or Exploratory Research Budget, pursuant to Section 2.3.2 (Amendments to the Exploratory Research Plan);

(g) review and discuss each Collaboration Program Report, pursuant to Section 2.6.2 (Collaboration Program Reports);

(h) review and discuss the Regulatory Strategy for each Licensed Product, as described in Section 7.1 (Regulatory Responsibility);

(i) coordinate the wind-down of any Terminated Products in the Terminated Countries to the extent the JSC is still in effect at the time of the applicable termination notice, pursuant to Section 14.3.1 (Wind-Down); and

(j) perform such other functions as appropriate to further the purposes of this Agreement as determined by the Parties.

4.2. **Subcommittees** . From time to time, the JSC may establish and delegate duties, including any responsibilities of the JSC set forth in Section 4.1.5 (Specific Responsibilities of the JSC), to operational subcommittees (each, a "**Subcommittee**") on an "as-needed" basis to oversee particular projects or activities, which delegations will be reflected in the minutes of the meetings of the JSC. Such Subcommittees may be established on an *ad hoc* basis for purposes of a specific project, for the life of a Licensed Product, or on such other basis as the JSC may determine, and will be constituted and will operate as the JSC may determine; *provided* that each Subcommittee will have equal representation from each Party and decision making will be by consensus, with each Party's representatives on the applicable Subcommittee collectively having one vote on all matters brought before the Subcommittee. Each Subcommittee and its activities will be subject to the direction, review, and approval of, and, unless otherwise determined by the JSC, will report to, the JSC. For each Subcommittee, Ionis will designate one of its Subcommittee members to serve as the chairperson of such Subcommittee. The chairperson or his or her designee, in collaboration with the Alliance Managers, will be responsible for calling meetings, preparing and circulating an agenda in advance of each meeting, and preparing and issuing minutes of each meeting within [***] thereafter. Such minutes will not be finalized until all Subcommittee members have had an adequate opportunity to review and confirm the accuracy of such minutes. Each Party may replace its representatives on each such Subcommittee at any time upon written notice to the other Party. The Alliance Manager of each Party (or his or her designee) will attend each meeting of each Subcommittee as a non-voting participant. Each Subcommittee and its activities will be subject to the oversight of, and will report to, the JSC. Any disagreement between the representatives of the Parties on a Subcommittee will be referred to the JSC for resolution in accordance with Section 4.6 (Decision-Making).

4.3. **Joint Research Committee**

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4.3.1. **Formation and Purpose of the JRC**. Promptly, but no later than [***] after the creation of the JSC, the Parties will establish a Joint Research Committee ("**JRC**"), which JRC will coordinate, oversee, and monitor the Parties' research activities hereunder in accordance with this Section 4.3 (Joint Research Committee). The JRC will be deemed a "Subcommittee" as described in Section 4.2 (Subcommittees). The JRC will have the responsibilities set forth herein and will dissolve upon the earlier of (a) the dissolution of the JSC, (b) the expiration of the Collaboration Term, or (c) by mutual agreement between the Parties.

4.3.2. **Membership**. Each Party will designate [***] representatives with appropriate expertise and seniority to serve as members of the JRC, and who have the authority to bind such Party with respect to matters within the purview of the JRC.

4.3.3. **Specific Responsibilities of the JRC**. The responsibilities of the JRC will be to:

(a) coordinate the Collaboration Activities;

(b) develop, discuss, and submit to the JSC to further review, discuss, and determine whether to approve each Drug Discovery Plan, and any updates thereto, pursuant to Section 2.2.2 (Additional Drug Discovery Plans) and Section 2.2.3 (Amendments to the Drug Discovery Plans);

(c) develop, discuss, and submit to the JSC to further review, discuss, and determine whether to approve any updates to the Exploratory Research Plan or Exploratory Research Budget, pursuant to Section 2.3.2 (Amendments to the Exploratory Research Plan); and

(d) perform such other functions as determined by the JSC.

4.4. **Alliance Managers** . Each of the Parties will appoint a single individual to coordinate communications regarding the activities under this Agreement (each, an "**Alliance Manager**"). The role of the Alliance Manager is to act as a single point of contact between the Parties to ensure a successful relationship under this Agreement. The Alliance Managers will attend any JSC meetings. Alliance Managers will be non-voting participants in all JSC meetings that they attend; *provided*, *however*, that an Alliance Manager may bring any matter to the attention of the JSC if such Alliance Manager reasonably believes that such matter warrants such attention. Each Party will designate its initial Alliance Manager promptly after the Effective Date and each Party may change its designated Alliance Manager at any time upon written notice to the other Party. Any Alliance Manager may designate a substitute to temporarily perform the functions of that Alliance Manager by written notice to the other Party. Each Alliance Manager may also: (a) be the point of first referral in all matters of conflict resolution; (b) provide a single point of communication for seeking consensus between the Parties regarding key strategy and plan issues; (c) identify and bring disputes to the attention of the JSC in a timely manner; and (d) plan and coordinate cooperative efforts.

4.5. **Additional Participants**. Other employees of either Party or any of its Affiliates may attend meetings of the JSC or any Subcommittees as non-voting participants with prior written notice to the other Party (including via email notification). In addition, with the consent of each Party, consultants, representatives, or advisors may attend meetings of the JSC or any Subcommittees as non-voting observers; *provided*, *however*, that such Third Party participants and observers are under written obligations of confidentiality and non-use applicable to the Confidential Information of each Party that are at least as stringent as those set forth in Article 11 (Confidentiality).

4.6. **Decision-Making**.

4.6.1. **Committee Decisions**. Each Party's representatives on the JSC will, collectively, have one vote (the "**Party Vote**") on all matters brought before such committee for a decision by consensus. The JSC will make decisions as to matters within its jurisdiction by unanimous Party Vote, which Party Vote will be reflected in the minutes of the committee meeting. No vote will be binding on either Party unless each Party has at least one representative in attendance.

4.6.2. **Scope of Committee Authority**. For the avoidance of doubt, matters that are specified in this Article 4 (Governance) only to be reviewed and discussed (as opposed to reviewed, discussed, and approved) do not require any agreement or decision by either Party and are not subject to the voting and decision-making procedures set forth in this Section 4.6 (Decision-Making).

4.6.3. **Escalation**. If the representatives of Metagenomi and Ionis are unable to agree on or resolve any matter requiring the approval of the JSC after the use of good faith efforts, within [***] after the JSC first considers such matter then, at the election of either Party, such Party may refer such matter to the Party's respective Executive Officer. The Executive Officers will use good faith efforts to resolve any such disagreement so referred to them as soon as practicable, and any final decision that the Executive Officers agree to in writing will be conclusive and binding on the Parties. If the Executive Officers are unable to resolve any such disagreement so referred to them within [***] following such referral (or such longer period as the Executive Officers may agree upon), then:

(a) **Ionis Final Decision-Making Authority**. Ionis will have the right to make the final decision regarding [***].

(b) **Resolution by Baseball Arbitration**. Except for those matters set forth in Section 4.6.3(a) (Ionis Final Decision-Making Authority), either Party may refer the matter for resolution pursuant to Section 15.1.3 (Expedited Dispute Resolution).

4.6.4. **General Authority**. The JSC and any Subcommittees will have solely the powers expressly assigned to them in this Article 4 (Governance) and elsewhere in this Agreement. In conducting themselves on the JSC, any Subcommittees, and as Alliance Managers, and in exercising their rights under this Article 4 (Governance), all representatives of each Party will consider diligently, reasonably, and in good faith all input received from the other Party, and will use good faith efforts to reach unanimity, where required, on all matters before them. Notwithstanding anything to the contrary set forth in this Agreement, the JSC, and any Subcommittees will not have the right to make any decisions: (a) to amend, modify, or waive compliance with any term or condition of this Agreement; (b) in a manner that negates any consent right or other right specifically allocated to a Party under this Agreement; (c) to resolve any dispute involving the breach or alleged breach of this Agreement; (d) to resolve a matter if the provisions of this Agreement specify that agreement of the Parties, including consent of each Party, is required for such matter; (e) in a manner that a Party reasonably believes would require it to perform any act that would cause such Party to violate any Applicable Law or the requirements of any Regulatory Authority, or otherwise breach any of its obligations hereunder; or (f) that otherwise expand the rights or reduce the obligations of either Party under this Agreement.

Article 5
Co-Development and Co-Commercialization Options

5.1. **Co-Development and Co-Commercialization Options**.

5.1.1. **Option Grant**. Ionis hereby grants to Metagenomi the exclusive option to co-Develop and co-Commercialize with Ionis the Licensed Products under a Drug Discovery Program (a "**Co-Co Option**"), which Co-Co Option may be exercised for (a) [***], (b) no more than one of the other three Drug Discovery Programs for the Wave 1 Targets, and (c) no more than two Drug Discovery Programs for the Wave 2 Targets that become Collaboration Targets.

5.1.2. **Option Period**. On a Drug Discovery Program-by-Drug Discovery Program basis, Metagenomi may exercise a Co-Co Option for a Drug Discovery Program by delivering written notice to Ionis of such exercise at any time during the [***] after the selection of [***] for such Drug Discovery Program (such notice, the "**Co-Co Option Notice**", and such [***], the "**Co-Co Option Period**"). Notwithstanding the foregoing, Metagenomi may terminate the Co-Co Option Period for a Drug Discovery Program early by providing written notice to Ionis at any time during such [***] that Metagenomi does not elect to exercise its Co-Co Option for such Drug Discovery Program and, upon Ionis' receipt of any such written notice the Co-Co Option Period for such Drug Discovery Program, the Co-Co Option Period for such Drug Discovery Program will be deemed to have expired

and Metagenomi may not thereafter exercise the Co-Co Option for such Drug Discovery Program. No more than [***] at Metagenomi's request during the Co-Co Option Period for a Drug Discovery Program, Ionis will provide Metagenomi with [***] ("**Option Package**"). For clarity, Ionis will not be required to generate any additional data or information that is not in existence as of the date of Metagenomi's request for an Option Package.

5.1.3. **Option Exercise**. If Metagenomi decides to exercise the Co-Co Option for a particular Drug Discovery Program, then it will deliver written notice to Ionis of such determination during the applicable Co-Co Option Period, which notice will indicate the Drug Discovery Program for which Metagenomi elects to exercise the Co-Co Option, and (a) the Drug Discovery Program for which Metagenomi is exercising its Co-Co Option will automatically be deemed a "Co-Co Program" and all Licensed Products under such Drug Discovery Program will automatically be deemed "Co-Co Products," (b) Metagenomi will pay Ionis the Option Exercise Fee for such Co-Co Program pursuant to Section 9.3 (Option Exercise Fee), and (c) the Parties will enter into a Co-Development and Co-Commercialization Agreement for such Co-Co Program in accordance with Section 5.2 (Development and Commercialization of the Co-Co Products; Opt-Down Right). Any Drug Discovery Program for which Metagenomi does not exercise a Co-Co Option prior to the expiration of the applicable Co-Co Option Period will automatically be deemed an "Ionis Program" and all Licensed Products under such Drug Discovery Program will automatically be deemed "Ionis Products" and Ionis will have sole control under the Development and Commercialization of such Ionis Products in accordance with Article 6 (Development and Commercialization of the Ionis Products).

5.2. **Development and Commercialization of the Co-Co Products; Opt-Down Right** . On a Co-Co Program-by-Co-Co Program basis, promptly after Metagenomi exercises a Co-Co Option for a Co-Co Program, the Parties will negotiate in good faith the terms of a worldwide, co-exclusive (with Ionis) co-Development and co-Commercialization agreement (the "**Co-Development and Co-Commercialization Agreement**"), which terms and conditions will be reasonable and customary for agreements of this type and will include a requirement that the Parties share all future Development, Commercialization, and other Exploitation costs and all future profits with respect to the applicable Co-Co Products, with the Parties bearing the share of such costs 50:50 and Ionis being responsible for booking and recording revenue and on terms to be specified in the Co-Development and Co-Commercialization Agreement; *provided*, that [***]. Each Co-Development and Co-Commercialization Agreement will include: (i) the right for Metagenomi to, upon written notice to Ionis, reduce its share of any costs borne under the applicable Co-Co Program from 50% to any percentage between 50% and 25% and Ionis' share of such costs will increase accordingly (such option, the "**Opt-Down Right**"); *provided* that Metagenomi will continue to bear 50% of the costs of any then-ongoing Clinical Trials through the completion of any such ongoing Clinical Trials, (ii) each Party will receive a share of profits equal to the percentage of costs funded by such Party following the exercise of the Opt-Down Right based on the percentage of costs that Metagenomi commits to funding in its notice of exercise of its Opt- Down Right, and (iii) Metagenomi may only exercise the Opt-Down Right during the period beginning no earlier than [***] and no later than [***] prior to the [***]. Until the Parties execute the Co-Development and Co-Commercialization Agreement, Ionis will continue to conduct and will be solely responsible for, and continue to have sole and exclusive control over, the Development and Manufacture of the applicable Co-Co Products.

5.3. **Escalation Procedure**. If the Parties, despite their good faith negotiations, are unable to agree on the terms and conditions of any Co-Development and Co-Commercialization Agreement within [***] of the date of the applicable Co-Co Option Notice (or such longer time as mutually agreed by the Parties), then either Party may refer those terms and conditions to which they have not mutually agreed to the Executive Officers, who will use reasonable efforts to reach agreement on such terms and conditions. If such Executive Officers are unable to reach consensus with respect to such terms and conditions within [***] after such referral, then either Party may notify the other Party of its intent to invoke dispute resolution under Section 15.1.3 (Expedited Dispute Resolution).

5.4. **Metagenomi Opt-Out**. On a Co-Co Program-by-Co-Co Program basis, Metagenomi will have the right to opt-out of its rights and obligations under this Agreement to the extent related to the Exploitation of the Co-Co Products under such Co-Co Program and the applicable Co-Development and Co-Commercialization Agreement for a Co-Co Program (each such right, an "**Opt-Out Right**"). Metagenomi may exercise the Opt-Out Right for a Co-Co Program by providing written notice to Ionis of such election no later than [***] after [***] (the "**Opt-Out Period**"). If Metagenomi exercises the Opt-Out Right for a Co-Co Program during the applicable Opt-Out Period pursuant to this Section 5.4 (Metagenomi Opt-Out), then from and after the date that is the later of (a) [***] following the date on which [***] or (b) [***] (the "**Opt-Out Date**"), (i) the applicable Co-Development and Co-Commercialization Agreement will terminate and Ionis will have sole control over, and sole decision-making authority with respect to, at its cost and expense, the Development, Commercialization, and other Exploitation of the Licensed Products under such Drug Discovery Program, (ii) the Licensed Products under such Drug Discovery Program will be deemed to be "Ionis Products" and such Drug Discovery Program will be deemed to be an "Ionis Program", in each case, from and after the Opt-Out Date, (iii) Ionis will thereafter pay any Ionis Product Development Milestone Payments, Ionis Product Regulatory Milestone Payments, Ionis Product Sales Milestone Payments, and Ionis Royalties, in each case, that accrue as a result of the Exploitation of the applicable Ionis Products from and after the Opt-Out Date (*provided* that Ionis will not be required to pay the first Ionis Product Development Milestone Payment, Ionis Product Regulatory Milestone Payment, or Ionis Product Sales Milestone Payment, as applicable, to accrue as a result of the Exploitation of the applicable Ionis Products after the Opt-Out Date), (iv) Ionis will not be responsible for any Ionis Product Development Milestone Payments, Ionis Product Regulatory Milestone Payments, or Ionis Product Sales Milestone Payments that accrued prior to the Opt-Out Date, and (v) Metagenomi will continue to bear its share of the costs of any Clinical Trials for the applicable Ionis Products that are ongoing as of the Opt-Out Date through the completion of such Clinical Trials.

Article 6
Development and Commercialization of the Ionis Products

6.1. **Development**.

6.1.1. **General**. On an Ionis Program-by-Ionis Program basis, from and after expiration of the Drug Discovery Term for an Ionis Product, Ionis will have sole control over, and sole decision-making authority with respect to, at its cost and expense, the Development of, and the performance of all Medical Affairs with respect to, such Ionis Product in the Field in the Territory.

6.1.2. **Reporting for the Ionis Products**. On an Ionis Program-by-Ionis Program basis, during the period after [***], [***] per [***], Ionis will provide Metagenomi with a reasonably detailed report regarding the status of Ionis' Development of the Ionis Products for such Ionis Program. At Metagenomi's reasonable request, no more than [***] per [***], the Parties will meet to discuss the Development of the Ionis Products.

6.1.3. **Development Diligence for the Ionis Products**. Ionis (acting directly or through one or more Affiliates or Sublicensees) will use Commercially Reasonable Efforts to Develop and seek Regulatory Approval for at least [***] in [***].

6.2. **Commercialization.**

6.2.1. **General**. Ionis will have sole control over, and sole decision-making authority with respect to, at its cost and expense, the Commercialization of the Ionis Products in the Field in the Territory.

6.2.2. **Commercialization Diligence for the Ionis Products.** Following receipt by or on behalf of Ionis of Regulatory Approval for an Ionis Product in a country, Ionis (acting directly or through one or more Affiliates or Sublicensees) will use Commercially Reasonable Efforts to Commercialize such Ionis Product in such country.

Article 7
Regulatory Affairs

7.1. **Regulatory Responsibility.** From and after the Effective Date, as between the Parties, Ionis will be responsible for the preparation and submission of all Regulatory Submissions (including all meetings with Regulatory Authorities in connection with the same) for all Licensed Products, but, for clarity, not including Regulatory Submissions that relate to proprietary Metagenomi components of Licensed Products to which Ionis will have a right of reference pursuant to Section 7.2 (Right of Reference), **[***];** *provided* that Metagenomi will assist Ionis or any of its Affiliates or Sublicensees in its efforts to prepare and submit any such Regulatory Submissions in accordance with this Article 7 (Regulatory Affairs). Ionis or any of its Affiliates or Sublicensees may file all such applications in its own name (or in the name of its designee) and will own and control all such applications. On a Drug Discovery Program-by-Drug Discovery Program basis, at Ionis' request at any time after a Development Candidate is selected for a Drug Discovery Program, the JSC will discuss a high-level regulatory strategy for such Drug Discovery Program ("**Regulatory Strategy**"), which strategy will leverage Metagenomi's expertise with Regulatory Submissions for products that are similar to the Licensed Product. For clarity, the JSC will not have any approval rights with respect to the Regulatory Strategy for any Drug Discovery Program and Ionis will have sole control over, and sole decision-making authority with respect to, the Regulatory Submissions for the Licensed Products. Notwithstanding the foregoing, if Metagenomi exercises the Co-Co Option for one or more Drug Discovery Programs in accordance with Section 5.1 (Co-Development and Co-Commercialization Options), then all Regulatory Submissions with respect to any Co-Co Product will be prepared in accordance with the terms set forth in the applicable Co-Development and Co-Commercialization Agreement.

7.2. **Right of Reference.**

7.2.1. **Grant.** Metagenomi will grant, and hereby does grant, to Ionis and its Affiliates and Sublicensees a "Right of Reference," as that term is defined in 21 C.F.R. § 314.3(b) (or any successor rule or analogous Applicable Law recognized outside of the United States), to all Regulatory Submissions (including any drug master files) submitted by or on behalf of and Controlled by Metagenomi or any of its Affiliates that are necessary or reasonably useful to support any Regulatory Submissions for a Licensed Product to be made by Ionis, its Affiliates, or Sublicensees in the Field in the Territory.

7.2.2. **Assistance; Cooperation.** Ionis and its Affiliates and Sublicensees may use such right of reference solely for the purpose of seeking, obtaining, supporting, and maintaining Regulatory Approval for the Licensed Products in the Field in the Territory. Metagenomi will use Commercially Reasonable Efforts to take such actions as may be reasonably requested by Ionis to give effect to the intent of this Section 7.2 (Right of Reference), including, if requested by Ionis, (a) providing a signed statement that Ionis may rely on, and that the applicable Regulatory Authority may access, Metagenomi or its Affiliate's Regulatory Submissions in support of Ionis' application for Regulatory Approval for any Licensed Product, and (b) subject to the data sharing requirements under any privacy- related Applicable Law, providing Ionis with any underlying raw data or information submitted by Metagenomi or its Affiliates to the Regulatory Authority with respect to the applicable Regulatory Submissions. Internal Costs incurred by Metagenomi in performing any activities requested by Ionis pursuant to this Section 7.2.2 (Assistance; Cooperation) will be reimbursed in accordance with Section 3.4.4 (Costs of Support).

7.3. **Regulatory Support.**

7.3.1. **Access to Data.** Metagenomi will use Commercially Reasonable Efforts to assist Ionis or any of its Affiliates or Sublicensees in its efforts to prepare and submit any Regulatory Submissions to obtain, support, or maintain Regulatory Approvals for all Licensed Products in the Field in the Territory, including by providing Ionis with all data, written reports, and other documentation generated by or on behalf of Metagenomi under the Drug Discovery Programs that is necessary or reasonably useful to support any Regulatory Submissions for a Licensed Product, as well as any necessary samples and materials. Unless otherwise noted in the Development Supply Agreement or the Commercial Supply Agreement, the costs of Metagenomi providing such support will be reimbursed in accordance with Section 3.4.4 (Costs of Support).

7.3.2. **Review of Regulatory Submissions.** Ionis may (but, for clarity, is not required to) provide drafts of any INDs or other Regulatory Submissions for the Licensed Products to Metagenomi prior to submission to the applicable Regulatory Authority for Metagenomi to review and provide comments. Metagenomi will use Commercially Reasonable Efforts to review and provide any such requested comments in a timely manner and the costs of such support will be reimbursed in accordance with Section 3.4.4 (Costs of Support).

Article 8
Manufacturing

8.1. **Metagenomi Manufacturing Responsibilities.**

8.1.1. **Metagenomi Supply Term.** Subject to Section 8.4 (Ionis' Assumption of Manufacturing Responsibilities), on a Drug Discovery Program-by-Drug Discovery Program basis, commencing on [***] until [***], or such other period as mutually agreed upon by the Parties (the "**Metagenomi Supply Term**"), Metagenomi will Manufacture (a) all applicable Licensed Systems and certain components of the applicable Licensed Products (consistent with those components that Metagenomi manufactures for its own products) (collectively, the "**MG Manufactured Components**"), in each case, that are needed by Ionis for use in its Development activities pursuant to the terms of a development supply agreement (the "**Development Supply Agreement**") to be entered into between the Parties and (b) all MG Manufactured Components needed by Ionis for use in its Commercialization activities pursuant to the terms of a commercial supply agreement (the "**Commercial Supply Agreement**") to be entered into between the Parties. Under the Development Supply Agreement and the Commercial Supply Agreement, Metagenomi will provide the MG Manufactured Components at a cost that represents the Cost of Goods for such MG Manufactured Components *plus* 15% (the "**Supply Price**").

8.1.2. **Requested CMO.** If Metagenomi is, at any point during the Metagenomi Supply Term, Manufacturing any MG Manufactured Components without engaging a CMO, then Ionis may, upon written notice to Metagenomi, require Metagenomi to engage a CMO mutually agreeable to the Parties to conduct Manufacturing under this Agreement (such CMO, the "**Requested CMO**"). Within [***] of Metagenomi's receipt of such notice requesting Metagenomi engage a Requested CMO, Metagenomi will in good faith negotiate and enter into a written agreement with such Requested CMO for the purposes of Manufacturing the MG Manufactured Components (such agreement, the "**Requested CMO Contract**") and conduct a transfer of the Manufacturing Know-How to such Requested CMO and otherwise facilitate implementation of such Manufacturing Know-How, in each case, in a manner consistent with Metagenomi's rights and obligations with respect to the Manufacturing Technology Transfer described in Section 8.5 (Manufacturing After the Metagenomi Supply Term). Metagenomi will ensure that the Requested CMO Contract is expressly and freely assignable to and assumable by Ionis without the consent of the Requested CMO. Metagenomi will provide a draft of the Requested CMO Contract to Ionis prior to executing such Requested CMO Contract for review and comment and will incorporate Ionis' reasonable comments. If Metagenomi does not engage the Requested CMO within [***] of its receipt of notice requiring the engagement of such Requested CMO, then Ionis may terminate the Metagenomi Supply Term and assume all Manufacturing responsibilities for the MG Manufactured Components.

8.2. **Development Supply Agreement.** At such time as directed by the JSC, the Parties will negotiate in good faith the terms of the Development Supply Agreement, and a related quality agreement, which agreements will govern the terms and conditions of the Manufacturing of the MG Manufactured Components for Development purposes; *provided* that if Ionis needs any MG Manufactured Components for its Development activities prior to the Parties entering into the Development Supply Agreement, then Metagenomi will supply such MG Manufactured Components on a per-batch basis and Ionis will pay Metagenomi on a per-batch basis at the Supply Price for each such batch. The Development Supply Agreement and the related quality agreement will include terms and conditions consistent with the principles set forth on Schedule 8.2 (Development Supply Agreement Key Terms).

8.3. **Commercial Supply Agreement.** At such time as directed by the JSC, the Parties will negotiate in good faith the terms of the Commercial Supply Agreement, and a related quality agreement, which agreements will govern the terms and conditions of the Manufacturing of the MG Manufactured Components for Commercialization purposes. The Commercial Supply Agreement and the related quality agreement will include terms and conditions consistent with the principles set forth on Schedule 8.2 (Development Supply Agreement Key Terms), with such modifications that are reasonable and appropriate for a commercial supply.

8.4. **Ionis' Assumption of Manufacturing Responsibilities.** If, (a) [***], or (b) [***], then, in either case, [***]. For clarity, [***].

8.5. **Manufacturing After the Metagenomi Supply Term.** If Ionis assumes all Manufacturing responsibilities for the MG Manufactured Components in accordance with Section 8.1.2 (Requested CMO) or [***] or the Metagenomi Supply Term otherwise expires, then from and after such date, Ionis will have sole control over and sole decision-making authority with respect to, at its cost and expense, all Manufacturing activities for the MG Manufactured Components; *provided* that, at Ionis' request, Metagenomi will continue to Manufacture and supply MG Manufactured Components to Ionis pursuant to the Development Supply Agreement or Commercial Supply Agreement (as applicable) until the earlier of [***] or [***]. Promptly upon Ionis' request after expiration of the Metagenomi Supply Term, Metagenomi will, if and as requested, assign the Requested CMO Contract to Ionis and effect a transfer to Ionis or its designee(s) (which designee may be an Affiliate or a Third Party manufacturer, and which Third Party manufacturer may be a primary, backup, or second manufacturer of such MG Manufactured Component) of all Licensed Know-How that is necessary or reasonably useful to enable the Manufacture of each MG Manufactured Component (the "**Manufacturing Know-How**") and to facilitate implementation of the Manufacturing Know-How at facilities designated by Ionis (such transfer and implementation, as more fully described in this Section 8.5 (Manufacturing After the Metagenomi Supply Period), the "**Manufacturing Technology Transfer**"). Metagenomi will provide all reasonable assistance requested by Ionis to enable Ionis (or its Affiliate or designated Third Party manufacturer, as applicable) to implement the Manufacturing Know-How at the facilities designated by Ionis. If reasonably requested by Ionis, such assistance will include [***]. Without limiting the foregoing, in connection with the Manufacturing Technology Transfer, Metagenomi will cause all appropriate employees and representatives of Metagenomi and its Affiliates to meet with employees or representatives of Ionis (or its Affiliate or designated Third Party manufacturer, as applicable) at the applicable manufacturing facility at mutually convenient times to assist with the working up and use of the Manufacturing Know-How and with the training of the personnel of Ionis (or its Affiliate or designated Third Party manufacturer(s), as applicable) to the extent reasonably necessary to enable Ionis (or its Affiliate or designated Third Party manufacturer(s), as applicable) to use and practice the Manufacturing Know-How. Each Party will be responsible for its own costs and expenses incurred in conducting the Manufacturing Technology Transfer.

Article 9
Consideration; Financial Terms

9.1. **Upfront Payment**. Ionis will pay Metagenomi a one-time upfront payment of $80,000,000 (the "**Upfront Payment**") no later than [***] after the Effective Date. The Upfront Payment is non- creditable and non-refundable.

9.2. **Wave 2 Target Selection Fee**. On a Wave 2 Target-by-Wave 2 Target basis, promptly following the designation of a Wave 2 Target as a Collaboration Target in accordance with Section 2.1.4(c) (Effects if a Proposed Target is Available), Metagenomi will invoice Ionis for the applicable amount set forth in Table 9.2, which amount will be based on the applicable scenario for selection of such Wave 2 Target (each such payment, a "**Wave 2 Target Selection Fee**"). Ionis will pay such Wave 2 Target Selection Fee no later than [***] after receipt of such invoice. For clarity, each Wave 2 Target Selection Fee is only payable once for each Wave 2 Target that is designated as a Collaboration Target.

Table 9.2 – Wave 2 Target Selection Fee

Wave 2 Target Selection Scenario	Wave 2 Target Selection Fee
Scenario 1: If the Wave 2 Target is a target [***]	[***]
Scenario 2: If the Wave 2 Target is a target [***]	[***]
Scenario 3: If the Wave 2 Target is a target [***]	[***]

In order for Scenario 2 of Table 9.2 to apply, Metagenomi must (a) [***] and (b) [***].

9.3. **Option Exercise Fee**. On a Drug Discovery Program-by-Drug Discovery Program basis, if Metagenomi exercises a Co-Co Option for a Drug Discovery Program during the applicable Co-Co Option Period in accordance with Section 5.1.3 (Option Exercise), then Metagenomi will reimburse Ionis in accordance with the terms set forth in this Section 9.3 (Option Exercise Fee), which reimbursement will be equal to 50% of the Internal Costs and Out-of-Pocket Costs incurred by Ionis in the conduct of the Drug Discovery Activities for such Drug Discovery Program prior to the exercise of the Co-Co Option for such Drug Discovery Program *minus* 50% of the Internal Costs and Out-of-Pocket Costs incurred by Metagenomi in the conduct of the Drug Discovery Activities for such Drug Discovery Program prior to the exercise of the Co-Co Option for such Drug Discovery Program if such amount is a positive number (such amount, the "**Option Exercise Fee**" for such Drug Discovery Program). No later than [***] after the date on which Metagenomi exercises a Co-Co Option for a Drug Discovery Program, each Party will deliver to the other Party a written report, with reasonable supporting documentation, that sets forth the Internal Costs and Out-of-Pocket Costs incurred by or on behalf of such Party in connection with performance of the Drug Discovery Activities for such Drug Discovery Program (to the extent in accordance with the applicable Drug Discovery Plan) (each, a "**Development Cost Share Notice**"). Promptly after delivery of each Development Cost Share Notice, Ionis will invoice Metagenomi for the Option Exercise Fee (if any) and Metagenomi will pay the Option Exercise Fee no later than [***] after receipt of Ionis' invoice.

9.4. **Ionis Product Milestone Payments.**

9.4.1. **Ionis Product Development Milestone Payments.** Subject to the terms and conditions of this Agreement, including Section 9.5 (Ionis Products for [***] Target Populations), (a) with respect to the [***] set forth below, on an Ionis Program- by-Ionis Program basis and (b) with respect to the [***] set forth below, on an Ionis Product-by-Ionis Product basis, Ionis will pay one-time milestone payments to Metagenomi of the amounts set forth in Table 9.4.1 (each, an "**Ionis Product Development Milestone Payment**") upon the first achievement by Ionis or any of its Affiliates or Sublicensees of each of the development milestone events set forth in Table 9.4.1 (each, an "**Ionis Product Development Milestone Event**") for each Ionis Program or Ionis Product (as applicable); *provided* that, with respect to the [***] set forth below, on an Ionis Program-by-Ionis Program basis, if more than one Ionis Product for the same Ionis Program achieve an Ionis Product Development Milestone Event, then [***]. Each Ionis Product Development Milestone Payment is payable only once for each Ionis Program or Ionis Product (as applicable), regardless of the number of times the corresponding Ionis Product Development Milestone Event is achieved for such Ionis Program or Ionis Product (as applicable). If Ionis or its Affiliates or Sublicensees achieve all of the Ionis Product Development Milestone Events for an Ionis Product, then the Ionis Product Development Milestone Payments payable by Ionis under this Section 9.4.1 (Ionis Product Development Milestone Payments) for such Ionis Product will not exceed $29,000,000.

Table 9.4.1 – Ionis Product Development Milestones

Ionis Product Development Milestone Event	Ionis Product Development Milestone Payment
[***]	[***]
[***]	[***]
[***]	[***]

9.4.2. **Ionis Product Regulatory Milestone Payments.** Subject to the terms and conditions of this Agreement, including Section 9.5 (Ionis Products for [***] Target Populations), on an Ionis Product-by-Ionis Product basis, Ionis will pay one-time milestone payments to Metagenomi of the amounts set forth in Table 9.4.2 (each, an "**Ionis Product Regulatory Milestone Payment**") upon the first achievement by Ionis or any its Affiliates or Sublicensees of each of the regulatory milestone events set forth in Table 9.4.2 (each, an "**Ionis Product Regulatory Milestone Event**") by an Ionis Product. Each Ionis Product Regulatory Milestone Payment is payable only once for each Ionis Product, regardless of the number of times the corresponding Ionis Product Regulatory Milestone Event is achieved for an Ionis Product. If Ionis or its Affiliates or Sublicensees achieve all of the Ionis Product Regulatory Milestone Events for an Ionis Product, then the Ionis Product Regulatory Milestone Payments payable by Ionis under this Section 9.4.2 (Ionis Product Regulatory Milestone Payments) for such Ionis Product will not exceed $60,000,000.

Table 9.4.2 – Ionis Product Regulatory Milestones

Ionis Product Regulatory Milestone Event	Ionis Product Regulatory Milestone Payment
[***]	[***]
[***]	[***]

9.4.3. **Ionis Product Sales Milestone Payments.** Subject to the terms and conditions of this Agreement, including Section 9.5 (Ionis Products for [***] Target Populations), on an Ionis Product-by-Ionis Product basis, Ionis will pay one-time milestone payments to Metagenomi of the amounts set forth in Table 9.4.3 (each, an "**Ionis Product Sales Milestone Payment**") upon the first achievement by Ionis or any of its Affiliates or Sublicensees of each of the sales milestone events set forth in Table 9.4.3 (each, an "**Ionis Product Sales Milestone Event**") for an Ionis Product. Each Ionis Product Sales Milestone Payment is payable only once for each Ionis Product, regardless of the number of times the corresponding Ionis Product Sales Milestone Event is achieved for an Ionis Product. If Ionis or its Affiliates or Sublicensees achieve all of the Ionis Product Sales Milestone Events for an Ionis Product, then the Ionis Product Sales Milestone Payments payable by Ionis under this Section 9.4.3 (Ionis Product Sales Milestone Payments) for such Ionis Product will not exceed $250,000,000.

Table 9.4.3 – Ionis Product Sales Milestones

Ionis Product Sales Milestone Event	Ionis Product Sales Milestone Payment
1. The first Calendar Year in which the aggregate Net Sales for an Ionis Product exceed [***]	[***]
2. The first Calendar Year in which the aggregate Net Sales for an Ionis Product exceed [***]	[***]
3. The first Calendar Year in which the aggregate Net Sales for an Ionis Product exceed [***]	[***]
4. The first Calendar Year in which the aggregate Net Sales for an Ionis Product exceed [***]	[***]

9.4.4. **Notice; Payment; Skipped Milestones.** Ionis will provide Metagenomi with written notice upon the achievement of each Ionis Product Development Milestone Event, Ionis Product Regulatory Milestone Event, and Ionis Product Sales Milestone Event, such written notice to be provided (a) with respect to any Ionis Product Development Milestone Event or Ionis Product Regulatory Milestone Event within [***] after such achievement and (b) with respect to any Ionis Product Sales Milestone Event, on or prior to the date of delivery of the Ionis Royalty Report under Section 9.6.4 (Ionis Royalty Reports) for the Calendar Year in which such milestone event is first achieved. Following receipt of such written notice, Metagenomi will promptly invoice Ionis for the applicable milestone payment and Ionis will make the appropriate milestone payment within [***] after receipt of such invoice; *provided* that with respect to the first Ionis Product Development Milestone Event (for selection of the first Development Candidate for an Ionis Program), Metagenomi may only invoice Ionis after [***], and Ionis will have no obligation to make any payment with respect to such Ionis Product Development Milestone Event unless [***] and Metagenomi provides Ionis with an invoice for the applicable amount. Each Ionis Product Development Milestone Event is intended to be successive. If any Ionis Product Development Milestone Event does not occur with respect to an Ionis Product for an Ionis Program, then such skipped milestone event will be deemed to have been achieved upon the achievement of the next successive milestone event with respect to an Ionis Product for such Ionis Program. Payment for any such skipped milestone that is owed in accordance with the provisions of the foregoing sentence will be due concurrently with the payment for the next successive Ionis Product Development Milestone Event. If more than one Ionis Product Sales Milestone Event occurs with respect to an Ionis Product in the same Calendar Year, then payments with respect to all applicable Ionis Product Sales Milestone Events will be paid for such Calendar Year.

9.5. **Ionis Products for [***] Target Populations**. If an Ionis Product is intended to treat target populations with [***] (each such population, [***] "[***] **Target Population**"), then Ionis will notify Metagenomi and [***], in each case, for such Ionis Product, [***].

9.6. **Ionis Product Royalty Payments.**

9.6.1. **Ionis Royalty Rates.** Subject to the terms and conditions of this Agreement, including the provisions of Section 9.6.2. (Adjustments to Ionis Royalties), on an Ionis Product-by- Ionis Product basis, Ionis will pay Metagenomi royalties based on the aggregate Annual Net Sales of each Ionis Product at the rates set forth in Table 9.6.1. On an Ionis Product- by-Ionis Product and country-by-county basis such royalties will be payable until the expiration of the applicable Royalty Term for each Ionis Product in such country. The royalty payments made pursuant to this Section 9.6.1 (Ionis Royalty Rates), the "**Ionis Royalties**" and the rates set forth in Table 9.6.1, the "**Ionis Royalty Rates**."

Table 9.6.1 – Royalty Rates for Ionis Products

Annual Net Sales of an Ionis Product in the Territory	*Royalty Rate as a Percentage of Net Sales*
Portion of Annual Net Sales of each Ionis Product that is less than or equal to [***]	[***]
Portion of Annual Net Sales of each Ionis Product that is greater than [***], and less than or equal to [***]	[***]
Portion of Annual Net Sales for each Ionis Product that is greater than [***], and less than or equal to [***]	[***]
Portion of Annual Net Sales of each Ionis Product that is greater than [***]	[***]

By way of example only, if the Annual Net Sales for an Ionis Product are [***] for a given Calendar Year, then the Ionis Royalties payable with respect to such Annual Net Sales for such Ionis Product in such Calendar Year, subject to adjustment as set forth in Section 9.6.2 (Adjustment to Ionis Royalties) would be: [***] + [***] + [***] + [***] = [***]. For the avoidance of doubt, the obligation to pay Ionis Royalties will be imposed only once with respect to the same unit of an Ionis Product.

9.6.2. Adjustments to Ionis Royalties.

(a) **Expiration of Valid Claims.** Subject to Section 9.6.3 (Cumulative Effect of Ionis Royalty Reductions), on an Ionis Product-by-Ionis Product and country-by-country basis in the Territory, if during the Royalty Term for an Ionis Product in a given country there is no Valid Claim of a Royalty Bearing Patent Right Covering such Ionis Product in such country, then commencing in the first Calendar Quarter after the date on which this Section 9.6.2(a) (Expiration of Valid Claims) applies and for the remainder of the Royalty Term for such Ionis Product in such country, the Annual Net Sales for such Ionis Product in such country will be reduced by [***] for purposes of calculating the Ionis Royalties owed under Section 9.6.1 (Ionis Royalty Rates).

(b) **Biosimilar Product.** Subject to Section 9.6.3 (Cumulative Effect of Ionis Royalty Reductions), if, on an Ionis Product-by-Ionis Product and country-by-country basis, a Biosimilar Product with respect to an Ionis Product is approved for sale in a country, then commencing in the Calendar Quarter in which such approval was obtained and continuing for the remainder of the Royalty Term for such Ionis Product in such country, the Annual Net Sales for such Ionis Product in such country will be reduced by [***] for purposes of calculating the Ionis Royalties owed under Section 9.6.1 (Ionis Royalty Rates).

(c) **Third Party Payments.** Subject to Section 9.6.3 (Cumulative Effect of Ionis Royalty Reductions), Ionis will be entitled to credit against the Ionis Royalties due to Metagenomi in a given Calendar Quarter [***] of (i) [***] that are actually paid by Ionis or any of its Affiliates or Sublicensees to any Third Party in consideration for rights under any Patent Right, Know-How, or other intellectual property owned or controlled by such Third Party (whether by acquisition or license) (such rights, "**Third Party IP**") that is acquired or licensed by Ionis or any of its Affiliates or

Sublicensees after the Effective Date, and [***] useful for Ionis or any of its Affiliates or Sublicensees to Exploit a Development Candidate as such Development Candidate exists as of the date of expiration of the Drug Discovery Term for the applicable Drug Discovery Program, and (ii) [***] (such amount in (i) or (ii), the "**Third Party Payment**"). Notwithstanding the foregoing, Third Party Payment shall exclude [***].

9.6.3. **Cumulative Effect of Ionis Royalty Reductions.** In no event will the royalty reductions for Ionis Products permitted under Section 9.6.2(a) (Expiration of Valid Claims), Section 9.6.2(b) (Biosimilar Product), or Section 9.6.2(c) (Third Party Payments), alone or together, reduce the Ionis Royalties due to Metagenomi for an Ionis Product in a given Calendar Quarter by more than [***] of the applicable Ionis Royalties that would otherwise be owed on the Annual Net Sales of such Ionis Product. If Ionis would, but for the restriction set forth in this Section 9.6.3 (Cumulative Effect of Ionis Royalty Reductions), have the right to reduce the Ionis Royalties due to Metagenomi by more than [***], then [***].

9.6.4. **Ionis Royalty Reports.** Commencing on the First Commercial Sale of an Ionis Product and for so long as Ionis Royalties are due under this Agreement, no later than (a) [***] prior to the start of each Calendar Year, Ionis will deliver a written good faith nonbinding estimate to Metagenomi of the projected Net Sales for the upcoming Calendar Year, (b) [***] after the end of each Calendar Quarter, Ionis will deliver a written good faith non-binding estimate to Metagenomi of the Net Sales in the relevant Calendar Quarter and the Ionis Royalties payable on such Net Sales, and (c) [***] after the end of each Calendar Quarter, Ionis will deliver a written report (each, an "**Ionis Royalty Report**") to Metagenomi specifying on an Ionis Product-by-Ionis Product and country- by-country basis: (i) Net Sales in the relevant Calendar Quarter; (ii) to the extent such Net Sales include sales not denoted in US Dollars, a summary of the then-current exchange rate methodology(ies) used for the calculation of Net Sales in accordance with Section 9.14 (Currency of Payment; Non-Refundable Payments); (iii) the Ionis Royalties payable on such Net Sales; and (iv) if applicable, the Ionis Product Sales Milestone Payments owed to Metagenomi in the relevant Calendar Quarter. All Ionis Royalty Reports will be the Confidential Information of Ionis. Ionis will pay the Ionis Royalties for each Calendar Quarter no later than [***] after receipt of an invoice from Metagenomi, which invoice will be provided promptly following Metagenomi's receipt of each Ionis Royalty Report from Ionis pursuant to this Section 9.6.4 (Ionis Royalty Reports). For clarity, the submission by Metagenomi of an invoice to Ionis based on an Ionis Royalty Report will be without prejudice to Metagenomi's right to dispute an Ionis Royalty Report or to audit an Ionis Royalty Report pursuant to Section 9.13 (Records and Audits).

9.7. **Existing In-License Agreements.**

9.7.1. **Effective Date Licensed Technology; Existing Metagenomi In-License Agreements**. Metagenomi hereby represents and warrants that none of the Licensed Technology Controlled by Metagenomi as of the Effective Date is in-licensed or acquired by Metagenomi under agreements with Third Party licensors or sellers. On a Collaboration Target-by-Collaboration Target basis, if any Patent Rights or Know-How, as of the date a Proposed Target becoming a Collaboration Target pursuant to Section 2.1.4(c) (Effects if a Proposed Target is Available), have been acquired or in-licensed by Metagenomi and if solely owned by Metagenomi without any encumbrance or restriction on licensing, would constitute Licensed Technology as a result of such Proposed Target becoming a

Collaboration Target pursuant to Section 2.1.4(c) (Effects if a Proposed Target is Available) (any such agreement, an "**Existing Potential Metagenomi In-License Agreement**"), then Metagenomi will, within [***] of the applicable Proposed Target becoming a Collaboration Target, provide Ionis with (a) notice and a copy of such Existing Potential Metagenomi In-License Agreements (which may be redacted to exclude provisions thereof that would not be applicable to Ionis as a licensee or sublicensee (as the case may be)), and (b) any disclosures that would be made against the representations and warranties in Section 12.2 (Additional Representations of Metagenomi) if such Existing Potential Metagenomi In-License Agreements were to become Metagenomi In-License Agreements. If Ionis provides written notice, within [***] of receipt of such information from Metagenomi, that it would like to have any such Existing Potential Metagenomi In-License Agreement included in the licenses granted under this Agreement and be subject to the terms of such Existing Potential Metagenomi In-License Agreement that are applicable to a licensee or sublicensee (as the case may be) thereunder, then such intellectual property rights described in such notice will automatically be deemed included in the Licensed Technology, and such Existing Potential Metagenomi In-License Agreement will be considered a Metagenomi In-License Agreement. Except as otherwise provided in this Agreement, as between the Parties, Metagenomi will be responsible for all payments that arise under any license or other agreement to which Metagenomi or its Affiliate is a party, including any Metagenomi In-License Agreement, in connection with this Agreement, including with respect to the Development, Manufacture, and Commercialization of Licensed Products.

9.7.2. **Existing Potential Ionis In-License Agreements**. With respect to any Patent Rights or Know-How that are the subject of an Ionis IP Option and are in-licensed or acquired by Ionis from any Third Party as of the applicable Ionis IP Option Effective Date (any such agreement, an "**Existing Potential Ionis In-License Agreement**"), Ionis will, within [***] of the applicable Ionis IP Option Effective Date, provide Metagenomi with notice and a copy of each such Existing Potential Ionis In-License Agreement (which may be redacted to exclude provisions thereof that would not be applicable to Metagenomi as a licensee or sublicensee (as the case may be)). If Metagenomi provides written notice, within [***] of receipt of such information from Ionis, that it would like to have any such Existing Potential Ionis In-License Agreement included in the licenses granted under this Agreement and be subject to the terms of such Existing Potential Ionis In-License Agreement that are applicable to a licensee or sublicensee (as the case may be) thereunder, then such intellectual property rights described in such notice will automatically be deemed included in the Ionis Background Technology and such Existing Potential Ionis In-License Agreement will be considered an Ionis In-License Agreement.

9.8. **New In-License Agreements.**

9.8.1. **Proposed New In-License Agreements.** Either Party (an "**Acquiring Party**") may, during the Term, acquire or in-license rights to additional intellectual property from a Third Party that, if solely owned by such Party, without any encumbrance or restriction on licensing, would constitute Licensed Technology (if such Acquiring Party is Metagenomi) or Ionis Background Technology (if such Acquiring Party is Ionis) (any such agreement entered into by Metagenomi, a "**Proposed New Metagenomi In-License Agreement**," any such agreement entered into by Ionis, a "**Proposed New Ionis In-License Agreement**," and any Proposed New Metagenomi In-License Agreements or Proposed New Ionis In-License Agreements, a "**Proposed New In-License Agreement**"). Any such Proposed New In-License Agreement will be freely licensable or sublicensable to the non-Acquiring Party

to the same extent that Licensed Technology or Ionis Background Technology (as applicable) is licensed to the non-Acquiring Party hereunder (including the right to grant sublicenses through multiple tiers) and will not (a) impose any material restrictions or obligations on the non-Acquiring Party as a licensee or sublicensee or (b) disadvantage the non-Acquiring Party, in each case ((a) and (b)), as compared to any other potential licensee or sublicensee under such Proposed New In-License Agreement. The Acquiring Party will [***] include in any such Proposed New In-License Agreement that is an in-license a provision pursuant to which [***]. Promptly following execution of a Proposed New In-License Agreement, the Acquiring Party will provide the non-Acquiring Party with a copy of such Proposed New In-License Agreement (which may be redacted to exclude provisions thereof that would not be applicable to the non-Acquiring Party as a licensee or sublicensee (as the case may be)).

9.8.2. **Acceptance of a Proposed In-License Agreement.** If the non-Acquiring Party provides written notice, within [***] of receipt of a Proposed New In-License Agreement, that it would like to have such intellectual property rights included in the licenses granted under this Agreement and be subject to the terms of such Proposed New In-License Agreement that are applicable to a licensee or sublicensee (as the case may be) thereunder, then such intellectual property rights described in such notice will automatically be deemed included in the Licensed Technology (if such Acquiring Party is Metagenomi) or Ionis Background Technology (if such Acquiring Party is Ionis) (any such Proposed New Metagenomi In-License Agreement with respect to intellectual property rights that are included in the Licensed Technology pursuant to this sentence, a "**New Metagenomi In-License Agreement**," any such Proposed New Ionis In-License Agreement with respect to intellectual property rights that are included in the Ionis Background Technology pursuant to this sentence, a "**New Ionis In-License Agreement**" and any New Metagenomi In-License Agreement or New Ionis In-License Agreement, a "**New In-License Agreement**").

9.9. **Payment Obligations Under Certain In-License Agreements.** Any payment obligations arising under the Metagenomi In-License Agreements or the Ionis In-License Agreements that are directly a result of the Development, Manufacture, or Commercialization of a Licensed Product or Metagenomi Product (as applicable) in the Field by or on behalf of the non-Acquiring Party or any of its Affiliates or Sublicensees, after application of all available reductions to and deductions from such payment obligations under the applicable agreement (but, for the avoidance of doubt, excluding [***] will be paid by [***] and reimbursed by the [***] in accordance with this Section 9.9 (Payment Obligations Under Certain In-License Agreements), but, with respect to [***], subject to [***] pursuant to Section 9.6.2(c) (Third Party Payments). Except as set forth in the immediately preceding sentence, [***] will be responsible for [***] under such agreements (including [***]). [***] will provide the [***] with a reasonably detailed invoice for any payments made by the [***] under a Metagenomi In-License Agreement or Ionis In-License Agreement that are [***] pursuant to this Section 9.9 (Payment Obligations Under Certain In-License Agreements) within [***], and [***] will pay the undisputed portion of such invoices within [***] of receipt thereof. For clarity, the [***] and its Affiliates will be [***] under a Metagenomi In-License Agreement or Ionis In-License Agreement one time only. Notwithstanding the foregoing, the [***] may, in its sole discretion, notify [***] that it elects to abandon its payment obligations under this Section 9.9 (Payment Obligations Under Certain In-License Agreements) with respect to a Metagenomi In-License Agreement or Ionis In-License Agreements, whereupon such agreement will no longer be deemed to be a Metagenomi In-License Agreement or Ionis In-License Agreements under this Agreement (as applicable) and the [***] will no longer be responsible for such payment obligations from and after the date of such notice.

9.10. Metagenomi Product Economics.

9.10.1. Metagenomi Product Milestone Payments. If Metagenomi exercises the Ionis IP Option in accordance with Section 2.7 (Ionis Proprietary Toolbox of Chemical Modifications), then, on a Metagenomi Product-by-Metagenomi Product basis, Metagenomi will pay one-time milestone payments to Ionis of the amounts set forth in Table 9.10.1 (each, a "**Metagenomi Product Milestone Event**") upon the first achievement by Metagenomi or any of its Affiliates or Sublicensees of each of the milestone events set forth in Table 9.10.1 (each, a "**Metagenomi Product Milestone Payment**") for a Metagenomi Product. Each Metagenomi Product Milestone Payment is payable only once for each Metagenomi Product, regardless of the number of times the corresponding Metagenomi Product Milestone Event is achieved for a Metagenomi Product. If Metagenomi or its Affiliates or Sublicensees achieve all of the Metagenomi Product Milestone Events for a Metagenomi Product, then the Metagenomi Product Milestone Payments payable by Metagenomi under this Section 9.10.1 (Metagenomi Product Milestone Payments) for such Metagenomi Product will not exceed [***].

Table 9.10.1 – Metagenomi Product Milestones

Metagenomi Product Milestone Event	Metagenomi Product Milestone Payment
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]

9.10.2. Notice; Payment; Skipped Milestones. Metagenomi will provide Ionis with written notice upon the achievement of each Metagenomi Product Milestone Event within [***] after such achievement and will pay Ionis within [***] after receipt of an invoice from Ionis. Each Metagenomi Product Milestone Event is intended to be successive. If any Metagenomi Product Milestone Event does not occur with respect to a Metagenomi Product, then such skipped milestone event will be deemed to have been achieved upon the achievement of the next successive milestone event with respect to such Metagenomi Product; *provided* that the [***] Metagenomi Product Milestone Event shall not be deemed to have been achieved upon the achievement of the [***] Metagenomi Product Milestone Event. Payment for any such skipped milestone that is owed in accordance with the provisions of the foregoing sentence will be due concurrently with the payment for the next successive Metagenomi Product Milestone Event.

9.10.3. Metagenomi Royalties.

(a) **Metagenomi Royalty Rates**. Subject to the terms and conditions of this Agreement, including the provisions of Section 9.10.3(b) (Adjustments to Metagenomi Royalties), on a Metagenomi Product-by-Metagenomi Product and country-by-country basis, Metagenomi will pay Ionis an amount equal to [***] of the Net Sales of the applicable Metagenomi Product in a country in the Territory by Metagenomi and its Affiliates and its Sublicensees until the expiration of the applicable Metagenomi Royalty Term for such Metagenomi Product in such country. The royalty payments made pursuant to this Section 9.10.3(a) (Metagenomi Royalty Rates), the "**Metagenomi Royalties**" and the rate set forth in this Section 9.10.3(a) (Metagenomi Royalty Rates), the "**Metagenomi Royalty Rate**."

(b) **Adjustment to Metagenomi Royalties**. On a Metagenomi Product-by- Metagenomi Product and country-by-country basis in the Territory, if during the Metagenomi Royalty Term for a Metagenomi Product in a given country there is no Valid Claim of a Patent Right within the Ionis Background Technology Covering such Metagenomi Product in such country, then commencing in the first Calendar Quarter after the date on which this Section 9.10.3(b) (Adjustments to Metagenomi Royalties) applies and for the remainder of the Royalty Term for such Metagenomi Product in such country, the Net Sales for such Metagenomi Product in such country will be reduced by [***] for purposes of calculating the Metagenomi Royalties owed under Section 9.10.3(a) (Metagenomi Royalty Rates).

9.10.4. **Metagenomi Royalty Reports**. Commencing on the First Commercial Sale (applied *mutatis mutandis*) of a Metagenomi Product and for so long as Metagenomi Royalties are due under this Agreement, no later than (a) [***] prior to the start of each Calendar Year, Metagenomi will deliver a written good faith non-binding estimate to Ionis of the projected Net Sales for the upcoming Calendar Year, (b) [***] after the end of each Calendar Quarter, Metagenomi will deliver a written good faith non-binding estimate to Ionis of the Net Sales in the relevant Calendar Quarter and the Metagenomi Royalties payable on such Net Sales, and (c) [***] after the end of each Calendar Quarter, Metagenomi will deliver a written report (each, a "**Metagenomi Royalty Report**") to Ionis specifying on a Metagenomi Product-by-Metagenomi Product and country-by-country basis: (i) Net Sales in the relevant Calendar Quarter; (ii) to the extent such Net Sales include sales not denoted in US Dollars, a summary of the then-current exchange rate methodology(ies) used for the calculation of Net Sales in accordance with Section 9.14 (Currency of Payment; Non-Refundable Payments); and (iii) the Metagenomi Royalties payable on such Net Sales. All Metagenomi Royalty Reports will be the Confidential Information of Metagenomi. Metagenomi will pay the Metagenomi Royalties for each Calendar Quarter no later than [***] after receipt of an invoice from Ionis, which invoice will be provided promptly following Ionis' receipt of each Metagenomi Royalty Report from Metagenomi pursuant to this Section 9.10.4 (Metagenomi Royalty Reports). For clarity, the submission by Ionis of an invoice to Metagenomi based on a Metagenomi Royalty Report will be without prejudice to Ionis' right to dispute a Metagenomi Royalty Report or to audit a Metagenomi Royalty Report pursuant to Section 9.13 (Records and Audits).

9.11. **Other Payments.** With respect to any amounts owed under this Agreement by one Party to the other for which no other invoicing and payment procedure is otherwise specified in this Agreement, a Party will provide an invoice, together with reasonable supporting documentation, to the other Party for such amounts. The owing Party will pay any undisputed amounts within [***] of receipt of the invoice, and any disputed amounts owed by a Party will be paid within [***] of resolution of the dispute in accordance with Section 15.1 (Dispute Resolution).

9.12. **Right to Offset.** Ionis will have the right to offset any amount owed by Metagenomi to Ionis that are (a) [***], or (b) [***], in each case, against any payments owed by Ionis to Metagenomi under this Agreement. Such offsets will be in addition to any other rights or remedies available under this Agreement and Applicable Law. For clarity, the foregoing right to offset will only apply to [***].

9.13. Records and Audits.

9.13.1. **Books and Records.** Each Party will keep (and will cause its Affiliates and Sublicensees to keep) complete and accurate books and records pertaining to (a) in the case of Ionis, all Internal Costs and Out-of-Pocket Costs incurred in connection with the performance of the Drug Discovery Activities, Net Sales of Ionis Products, any amounts paid under any Ionis In-License Agreement, and any costs shared by the Parties for the Co-Co Products pursuant to a Co-Development and Co-Commercialization Agreement (the "**Ionis Records**") and (b) in the case of Metagenomi, all Internal Costs and Out-of-Pocket Costs incurred in connection with the performance of the Collaboration Activities, Net Sales of the Metagenomi Products, any amounts paid under any Metagenomi In-License Agreement, and any costs shared by the Parties for the Co-Co Products pursuant to a Co-Development and Co-Commercialization Agreement (the "**Metagenomi Records**"), in each case ((a) and (b)), in reasonable detail to permit the other Party to confirm the accuracy of all payments or costs reported for at least the preceding [***]. During the Term and for a period of [***] thereafter, each Party (the "**Auditing Party**") may, upon written request and subject to this Section 9.13 (Records and Audits), cause a nationally-recognized independent accounting firm (the "**Auditor**"), that is reasonably acceptable to the other Party (the "**Audited Party**") to inspect the relevant records of such Audited Party and its Affiliates to verify the payments made and amounts reported by the Audited Party and the directly related reports, statements, and books of accounts, as applicable.

9.13.2. **Audit Procedure.** Before beginning its audit, the Auditor will execute a written agreement acceptable to the Audited Party by which the Auditor agrees to keep confidential all information reviewed during the audit, which agreement will contain terms of non-disclosure and non-use no less stringent than those set forth in this Agreement, but otherwise will be reasonable and customary for the purposes of an audit of this nature. The Auditor will have the right to disclose to the Auditing Party only its conclusions regarding any payments owed under this Agreement. Each Party and its Affiliates will make their records available for inspection by the Auditor during regular business hours at such place or places where such records are customarily kept, upon receipt of reasonable advance notice from the Auditing Party. The records will be reviewed solely to verify the Audited Party's compliance with the payment obligations and financial terms of this Agreement.

9.13.3. **Frequency; Overpayments and Underpayments.** Such inspection right will not be exercised more than [***] and not more frequently than [***] with respect to records covering any specific period of time. In addition, the Auditing Party will only be entitled to audit the books and records of the Audited Party for the [***] prior to the [***] in which the audit request is made. The Auditing Party agrees to hold in strict confidence all information received and all information learned in the course of any audit or inspection, except to the extent necessary to enforce its rights under this Agreement or to the extent required to comply with any Applicable Law or judicial order. The Auditor will provide its audit report and basis for any determination to the Audited Party at the time such report is provided to the Auditing Party before it is considered final. If the final result of the inspection reveals an underpayment or overpayment by either Party, then the underpaid or overpaid amount will be settled promptly plus interest due on any underpayments in accordance with Section 9.15 (Late Fees). The Auditing Party will pay for such inspections, as well as its expenses associated with enforcing its rights with respect to any payments hereunder; unless such audit reveals an underpayment of amounts owed to, or an overpayment of amounts owed by, the Auditing Party of more than [***] of the amount that was owed by the Audited Party or owed to the Audited Party, as applicable, with respect to the relevant period, in which case, the Audited Party will reimburse the Auditing Party for the reasonable expense incurred by the Auditing Party in connection with the audit.

9.14. **Currency of Payment; Non-Refundable Payments.** All amounts to be paid pursuant to this Agreement will be made in United States Dollars and will be paid by wire transfer in immediately available funds to a bank account designated by the receiving Party. The rate of exchange to be used in computing the amount of currency equivalent in U.S. Dollars owed to a Party under this Agreement will be the paying Party's then-current standard exchange rate methodology employed for the translation of foreign currency sales into U.S. Dollars in accordance with its Accounting Standards and consistently applied during the period. Any provisions of this Agreement that describe a payment as non-refundable will be without prejudice to either Party's right to bring a claim for breach of this Agreement, misrepresentation, or any other claim permissible under Applicable Law, including seeking recovery of payments made and damages for loss.

9.15. **Late Fees.** If a Party does not receive payment of any undisputed sum due to it on or before the due date set forth under this Agreement, then simple interest will thereafter accrue on the sum due to such Party from the due date until the date of payment at a per-annum rate of [***] or the maximum rate allowable under Applicable Law, whichever is lower.

9.16. **Currency Restrictions.** If, by reason of Applicable Law in any country, it becomes impossible or illegal for a Party to transfer, or have transferred on its behalf, payments owed to the other Party hereunder, then such Party will promptly notify the other Party of the conditions preventing such transfer and such payments will be deposited in local currency in the relevant country to the credit of the other Party in a recognized banking institution designated by the other Party or, if none is designated by the other Party within a period of [***], in a recognized banking institution selected by the transferring Party, as the case may be, and identified in a written notice given to the other Party.

9.17. **Withholding Taxes**. Either Party (a "**Withholding Party**") may withhold from payments due to the other Party (a "**Non-Withholding Party**") amounts for payment of any withholding tax that is required by Applicable Law to be paid to any taxing authority with respect to such payments, which will be remitted in accordance with Applicable Law. The Withholding Party will provide to the Non-Withholding Party all relevant documents and correspondence, and will also provide to the Non-Withholding Party any other cooperation or assistance on a reasonable basis as may be necessary to enable the Non-Withholding Party to claim exemption from such withholding taxes and to receive a refund of such withholding tax or claim a foreign tax credit. The Withholding Party will give proper evidence from time to time as to the payment of any such tax. The Parties will cooperate with each other in seeking deductions under any double taxation or other similar treaty or agreement from time to time in force. Such cooperation may include the Withholding Party making payments from a single source in the U.S., where possible. Notwithstanding the foregoing, [***].

Article 10
Intellectual Property

10.1. **Ownership of Inventions.**

10.1.1. **Background Intellectual Property.** As between the Parties, and subject to the licenses granted under this Agreement, each Party retains all rights, title, and interests in and to all Intellectual Property Rights that such Party owns or Controls as of the Effective Date or that it develops or otherwise acquires after the Effective Date outside the performance of the activities under this Agreement.

10.1.2. **By Inventorship.** For purposes of determining ownership under this Section 10.1.2 (By Inventorship), inventorship will be determined in accordance with United States patent laws (regardless of where the applicable activities occurred).

(a) **Metagenomi Collaboration Technology**. Metagenomi will be the sole owner of any Know-How discovered, developed, invented, or created solely by Metagenomi or its Affiliates or Third Parties acting on its or their behalf, in each case, in the performance of activities under this Agreement ("**Metagenomi Collaboration Know-How**") and any Patent Rights that Cover the Metagenomi Collaboration Know-How ("**Metagenomi Collaboration Patent Rights**" and together with the Metagenomi Collaboration Know-How, the "**Metagenomi Collaboration Technology**"), and will retain all of its rights thereto, subject to any rights or licenses expressly granted by Metagenomi to Ionis under this Agreement.

(b) **Ionis Collaboration Technology**. Ionis will be the sole owner of any Know-How discovered, developed, invented, or created solely by Ionis or its Affiliates or Third Parties acting on its or their behalf, in each case, in the performance of activities under this Agreement ("**Ionis Collaboration Know-How**") and any Patent Rights that Cover the Ionis Collaboration Know-How ("**Ionis Collaboration Patent Rights**" and together with the Ionis Collaboration Know-How, the "**Ionis Collaboration Technology**"), and will retain all of its rights thereto, subject to any rights or licenses expressly granted by Ionis to Metagenomi under this Agreement.

(c) **Joint Collaboration Technology**. Any Know-How discovered, developed, invented, or created jointly by (i) Ionis, its Affiliates, or Third Parties acting on its or their behalf and (ii) Metagenomi, its Affiliates, or Third Parties acting on its or their behalf, in each case, in the performance of activities under this Agreement (including in any meeting of the JSC or any Subcommittee) (such Know-How, "**Joint Collaboration Know-How**"), and any Patent Rights that Cover such Joint Collaboration Know-How ("**Joint Collaboration Patent Rights**," and together with the Joint Collaboration Know-How, the "**Joint Collaboration Technology**"), will be owned jointly by Ionis and Metagenomi on an equal and undivided basis, including all rights thereto, subject to any rights or licenses expressly granted by one Party to the other Party under this Agreement. Except as expressly provided in this Agreement, neither Party will have any obligation to account to the other for profits with respect to, or to obtain any consent of the other Party to license or exploit, Joint Collaboration Technology by reason of joint ownership thereof, and each Party hereby waives any right it may have under the laws of any jurisdiction to require any such consent or accounting.

10.1.3. **Disclosure.** During the Term, (a) Ionis will promptly disclose to designated Metagenomi personnel (including Metagenomi scientific and intellectual property personnel) in writing, and will cause its Affiliates to so disclose, the discovery, development, invention, or creation of any Ionis Collaboration Know-How or Ionis Collaboration Patent Right and (b) Metagenomi will promptly disclose to designated Ionis personnel (including Ionis scientific and intellectual property personnel) in writing, and will cause its Affiliates to so disclose, the discovery, development, invention, or creation of any Metagenomi Collaboration Know-How or Metagenomi Collaboration Patent Rights.

10.2. Patent Prosecution.

10.2.1. Ionis-Prosecuted Patent Rights.

(a) As between the Parties, Ionis will have the first right, but not the obligation, to control the Prosecution and Maintenance of all Product-Specific Patent Rights, all Joint Collaboration Patent Rights, and all Ionis Collaboration Patent Rights ("**Ionis-Prosecuted Patent Rights**"). Ionis will be the "Prosecuting Party" with respect to all Ionis-Prosecuted Patent Rights. Ionis will be responsible for and pay all future costs and expenses incurred in connection with the Prosecution and Maintenance of the Ionis-Prosecuted Patent Rights. Ionis will keep Metagenomi reasonably informed as to material developments with respect to the Prosecution and Maintenance of the Ionis-Prosecuted Patent Rights and will provide Metagenomi a reasonable opportunity to review and comment on substantive communications from any patent authority in the Territory regarding the Ionis- Prosecuted Patent Rights, as well as drafts of any substantive filings or responses to be made to such patent authorities in advance of submitting such filings or responses. Ionis will consider Metagenomi's comments regarding such communications and drafts in good faith but is not required to implement such comments. In addition, Ionis will provide Metagenomi with (i) copies of all final substantive filings and responses made to any patent authority with respect to the Ionis-Prosecuted Patent Rights in a timely manner following submission thereof and (ii) notice in advance of abandoning any such Ionis-Prosecuted Patent Rights.

(b) If, during the Term, Ionis decides that it is no longer interested in the Prosecution and Maintenance of a particular Product-Specific Patent Right or Joint Collaboration Patent Right, then it will promptly provide written notice to Metagenomi of such decision; provided that any such notice will be at least [***] in advance of any time based deadlines by which an action must be taken to establish or preserve any such Patent Right. Unless Ionis decides to no longer Prosecute and Maintain a particular Product-Specific Patent Right or Joint Collaboration Patent Right for strategic reasons, Metagenomi may, upon written notice to Ionis, assume the Prosecution and Maintenance of such Patent Right at Metagenomi's sole cost and expense. In such event Metagenomi will be responsible for 100% of the costs and expenses of the Prosecution and Maintenance of such Patent Right, and Metagenomi will thereafter be the "Prosecuting Party" with respect thereto for all purposes under this Agreement.

10.2.2. Metagenomi-Prosecuted Patent Rights. As between the Parties, Metagenomi will have the sole right, but not the obligation, to control the Prosecution and Maintenance of the Licensed Patent Rights and Metagenomi Collaboration Patent Rights, in each case, that are not Product-Specific Patent Rights (such Patent Rights, the "**Metagenomi- Prosecuted Patent Rights**") in accordance with this Agreement. Metagenomi will be the "Prosecuting Party" with respect to all Metagenomi-Prosecuted Patent Rights. Metagenomi will be responsible for and pay all future costs and expenses incurred in connection with the Prosecution and Maintenance of the Metagenomi-Prosecuted Patent Rights. Metagenomi will keep Ionis reasonably informed as to material developments with respect to the Prosecution and Maintenance of the Metagenomi-Prosecuted Patent Rights and will provide Ionis a reasonable opportunity to review and comment on substantive communications from any patent authority in the Territory regarding the Metagenomi-Prosecuted Patent Rights, as well as drafts of any substantive filings or responses to be made to such patent authorities in advance of submitting such filings or responses. Metagenomi will consider Ionis' comments regarding such communications and drafts in

good faith but is not required to implement such comments. In addition, Metagenomi will provide Ionis with (a) copies of all final substantive filings and responses made to any patent authority with respect to the Metagenomi-Prosecuted Patent Rights in a timely manner following submission thereof and (b) notice in advance of abandoning any such Metagenomi-Prosecuted Patent Rights.

10.2.3. **Cooperation.** The non-Prosecuting Party will (a) obtain and deliver to the Prosecuting Party any necessary documents for the Prosecuting Party to exercise its rights to prepare, prosecute, defend, and maintain all Patent Rights pursuant to this Section 10.2 (Patent Prosecution), (b) render all signatures that will be necessary in connection with all such patent filings, and (c) assist the Prosecuting Party in all other reasonable ways that are necessary for the issuance of those Patent Rights for which such Prosecuting Party is responsible, as well as for the Prosecution and Maintenance of such Patent Rights.

10.2.4. **Coordination in Prosecution.** Notwithstanding Metagenomi's right to Prosecute and Maintain the Metagenomi-Prosecuted Patent Rights, the Parties will, and will cause their Affiliates to, cooperate and implement reasonable patent filing and prosecution strategies (including filing divisionals, continuations or otherwise) so that, to the extent reasonably feasible, Product-Specific Patent Rights and other Licensed Patent Rights are pursued in mutually exclusive patent applications.

10.3. **Patent Enforcement.**

10.3.1. **Notification.** Each Party will use reasonable efforts to promptly notify the other in the event of any actual, likely, or suspected infringement of any Ionis-Prosecuted Patent Right or Metagenomi-Prosecuted Patent Right (an "**Infringement**"), including any Infringement that arises as a result of the making, using, offering to sell, selling, or importing of a product that would be competitive with a Licensed System or Licensed Product (a "**Competitive Infringement**").

10.3.2. **Competitive Infringements**.

(a) Ionis will have the first right, but not the obligation, to institute, prosecute, and control a Proceeding to enforce the Ionis-Prosecuted Patent Rights against any Competitive Infringement at its own expense. If Ionis fails to initiate a Proceeding within a period of 90 days after written notice of a Competitive Infringement is first provided by a Party under Section 10.3.1 (Notification), then Metagenomi will have the right to initiate and control a Proceeding to enforce the applicable Patent Right against such Competitive Infringement by counsel of its own choice; provided that if Ionis notifies Metagenomi during such 90-day period that it is electing in good faith not to institute any Proceeding to enforce Ionis-Prosecuted Patent Rights against such Competitive Infringement for strategic reasons, then Metagenomi will not have the right to initiate and control any Proceeding to enforce such Patent Rights against such Competitive Infringement.

(b) Metagenomi will have the first right, but not the obligation, to institute, prosecute, and control a Proceeding to enforce the Metagenomi-Prosecuted Patent Rights against any Competitive Infringement at its own expense. If Metagenomi fails to initiate a Proceeding within a period of 90 days after written notice of a Competitive Infringement is first provided by a Party under Section 10.3.1 (Notification), then Ionis will have the right to initiate and control a Proceeding to

enforce the applicable Patent Right against such Competitive Infringement by counsel of its own choice; provided that if Metagenomi notifies Ionis during such 90-day period that it is electing in good faith not to institute any Proceeding to enforce Metagenomi-Prosecuted Patent Rights against such Competitive Infringement for strategic reasons, then Ionis will not have the right to initiate and control any Proceeding to enforce such Patent Rights against such Competitive Infringement.

10.3.3. **Proceedings for Infringements other than Competitive Infringements.** During the Term, (a) Metagenomi will have the sole right, but not the obligation, to initiate a Proceeding against any Infringement that is not a Competitive Infringement with respect to any Licensed Patent Rights, at Metagenomi's sole discretion and at Metagenomi's sole cost and expense and (b) the Parties will jointly agree upon any initiation of a Proceeding against any Infringement that is not a Competitive Infringement with respect to any Joint Collaboration Patent Right; *provided* that neither Party will unreasonably withhold its agreement to initiate any such Proceeding with respect to any Joint Collaboration Patent Right (as applicable) upon the reasonable request of the other Party.

10.3.4. **Collaboration.** Each Party will provide to the enforcing Party reasonable assistance in any Proceeding brought under this Section 10.3 (Patent Enforcement), at such enforcing Party's request and expense, including to be named in such action if required by Applicable Law to pursue such action. The enforcing Party will keep the other Party regularly informed of the status and progress of such enforcement efforts, will reasonably consider the other Party's comments on any such efforts, including determination of litigation strategy and filing of material papers to the competent court. The non-enforcing Party will be entitled to separate representation in such matter by counsel of its own choice and at its own expense, but such Party will at all times cooperate fully with the enforcing Party. The enforcing Party will not settle any Proceeding that it brought under Section 10.3.2 (Competitive Infringements) in any manner that would limit the rights of the other Party or impose any obligation on the other Party, without the prior written consent of the other Party, which consent will not be unreasonably withheld, conditioned, or delayed.

10.3.5. **Expenses and Recoveries.** Any amount recovered in any Proceeding under this Section 10.3 (Patent Enforcement), including any amount recovered in any settlement of such Proceeding, will first be used [***] and will thereafter be for (a) with respect to any Competitive Infringement, the benefit of [***]; *provided*, *however*, that to the extent any such amount is [***] then such amount will, [***] and (b) with respect to any Infringement that is not a Competitive Infringement, for the benefit of [***].

10.4. **Defense of Claims Brought by Third Parties.** If any Third Party brings a claim or otherwise asserts that a Licensed Product or Licensed System infringes such Third Party's Patent Rights or misappropriates such Third Party's Know-How (each, a "**Third Party Infringement Claim**"), then the Party first having notice of the claim or assertion will promptly notify the other Party in writing. Subject to [***], [***] will have the sole right, but not the obligation, to undertake and control the defense or settlement of any Third Party Infringement Claim using counsel of its choice, at its cost and expense. If [***] is named as a defendant in such suit, [***] will have the right to participate in such defense and settlement with its own counsel, at its cost. [***] will not enter into any settlement of any Third Party Infringement Claim that is instituted or threatened to be instituted against [***] without [***] prior written consent, which will not be unreasonably withheld, conditioned, or delayed; except that such consent will not be required if such settlement includes a release of all liability in favor of [***] or an assumption of any unreleased liability by [***]. As

requested by [***], [***] will provide reasonable cooperation and assistance to [***] in connection with [***] control of the defense or settlement of a Third Party Infringement Claim. Such cooperation and assistance will include executing all necessary and proper documents and taking such actions as will be appropriate to allow [***] to control the defense and settlement of such Third Party Infringement Claim. [***] will reimburse [***]; except that [***] will have no obligation to [***] will keep [***] reasonably informed of the progress of any Third Party Infringement Claim. To the extent reasonable, both Parties will cooperate in good faith to (a) ensure that [***] and (b) [***].

10.5. **Patent Listing.** Ionis will have the sole right, but not the obligation, to determine which Ionis- Prosecuted Patent Rights will be listed in connection with the Regulatory Approval for a Licensed Product pursuant to 21 U.S.C. § 355(b)(1)(G), any similar statutory or regulatory requirement enacted in the future regarding biologic products, or any similar statutory or regulatory requirement in any non-U.S. country or other regulatory jurisdiction. The Parties will discuss and mutually agree on which Metagenomi-Prosecuted Patent Rights will be listed in connection with the Regulatory Approval for a Licensed Product pursuant to 21 U.S.C. § 355(b)(1)(G), any similar statutory or regulatory requirement enacted in the future regarding biologic products, or any similar statutory or regulatory requirement in any non-U.S. country or other regulatory jurisdiction.

10.6. **Common Ownership Legislation.** Notwithstanding anything to the contrary in this Article 10 (Intellectual Property), neither Party will have the right to make an election under the Common Ownership Legislation when exercising its rights under this Article 10 (Intellectual Property) without the prior written consent of the other Party, which will not be unreasonably withheld, conditioned, or delayed. With respect to any such permitted election, the Parties will use reasonable efforts to cooperate and coordinate their activities with respect to any submissions, filings, or other activities in support thereof. The Parties acknowledge and agree that this Agreement is a "joint research agreement" as defined in the Common Ownership Legislation. Notwithstanding the foregoing, the other Party's consent under this Section 10.6 (Common Ownership Legislation) will not be required in connection with an obviousness-type double patenting rejection in any patent application claiming a Licensed System, Licensed Product, or uses thereof.

10.7. **Patent Term Extension.**

10.7.1. **Ionis-Prosecuted Patent Rights.** Ionis will be solely responsible for obtaining patent term restoration for the Ionis-Prosecuted Patent Rights in any country in the Territory under any statute or regulation equivalent or similar to 35 U.S.C. § 156, where applicable to a Licensed Product. Ionis will determine which relevant Ionis-Prosecuted Patent Rights will be extended (including by filing supplementary protection certificates and any other extensions that are now or in the future become available). Metagenomi will abide by Ionis' determination and cooperate, as reasonably requested by Ionis, in connection with the foregoing (including by providing appropriate information and executing appropriate documents).

10.7.2. **Metagenomi-Prosecuted Patent Rights.** The Parties will mutually agree on the strategy for obtaining patent term restoration for the Metagenomi-Prosecuted Patent Rights in any country in the Territory under any statute or regulation equivalent or similar to 35 U.S.C. § 156, where applicable to a Licensed Product. The Parties will mutually agree on which relevant Metagenomi-Prosecuted Patent Rights will be extended (including by filing supplementary protection certificates and any other extensions that are now or in the future become available) and will cooperate with each other in connection with the foregoing (including by providing appropriate information and executing appropriate documents).

10.8. **Recording**. If Ionis deems it necessary or desirable to register or record this Agreement or evidence of this Agreement with any patent office or other appropriate Governmental Authority in one or more jurisdictions in the Territory, then Metagenomi will reasonably cooperate to execute and deliver to Ionis any documents accurately reflecting or evidencing this Agreement that are necessary or desirable, in Ionis' reasonable judgment, to complete such registration or recordation. Ionis will [***] in complying with the provisions of this Section 10.8 (Recording).

10.9. **Unitary Patent System**. Ionis will have the exclusive right to opt-in or opt-out of the EU Unitary Patent System for all Licensed Patent Rights and Joint Collaboration Patent Rights. For clarity, "to opt-in or opt-out" refers to both the right to have a European patent application or an issued European patent registered to have unitary effect within the meaning of Regulation (EU) No 1257/2012 of December 17, 2012 as well as the Agreement on a Unified Patent Court as of February 19, 2013; and to the right to opt-in or opt-out from the exclusive competence of the Unified Patent Court in accordance with Article 83(3) of that Agreement on a Unified Patent Court. Without limiting the generality of the foregoing, unless a Party or its Affiliate has expressly opted-in to the EU Unitary Patent System with respect to a given Patent Right, the other Party will not initiate any action under the EU Unitary Patent System without such Party's prior written approval, such approval to be granted or withheld in such Party's sole discretion.

10.10. **Trademarks**. As between the Parties, all trademarks and trade dress rights used in connection with the Commercialization of the Licensed Products in the Field in the Territory will be owned exclusively by Ionis.

10.11. **Common Interest**. All information exchanged between the Parties regarding the Prosecution and Maintenance, and enforcement and defense, of the Patent Rights under this Article 10 (Intellectual Property) will be deemed Confidential Information of the disclosing Party. In addition, the Parties acknowledge and agree that, with regard to such Prosecution and Maintenance, and enforcement and defense of the Patent Rights under this Article 10 (Intellectual Property), the interests of the Parties as collaborators and licensor and licensee are to obtain the strongest patent protection possible, and as such, are aligned and are legal in nature. The Parties agree and acknowledge that they have not waived, and nothing in this Agreement constitutes a waiver of, any legal privilege concerning the Patent Rights under this Article 10 (Intellectual Property), including privilege under the common interest doctrine and similar or related doctrines. Notwithstanding anything to the contrary contained herein, to the extent a Party has a good faith belief that any information required to be disclosed by such Party to the other Party under this Article 10 (Intellectual Property) is protected by attorney-client privilege or any other applicable legal privilege or immunity, such Party will not be required to disclose such information and the Parties will in good faith cooperate to agree upon a procedure (including entering into a specific common interest agreement, disclosing such information on a "for counsel eyes only" basis or similar procedure) under which such information may be disclosed without waiving or breaching such privilege or immunity.

Article 11
Confidentiality

11.1. **Confidential Information**.

11.1.1. **General.** Each Party will maintain all Confidential Information disclosed to it or its representatives (the "**Receiving Party**") by or on behalf the other Party (the "**Disclosing Party**") in strict confidence during the Term of this Agreement and for a period of [***] after the expiration or termination of this Agreement; *provided* that any Confidential

Information of either Party that constitutes a trade secret will continue to be subject to the terms of this Article 11 (Confidentiality) in perpetuity, so long as such information remains a trade secret. Each Party will use all such disclosed Confidential Information only to the extent necessary for purposes of this Agreement, including exercising the licenses and rights hereunder, and will not disclose such Confidential Information to any Third Party without the prior written consent of the Disclosing Party, except as permitted under this Agreement. Each Party will notify the other Party promptly on discovery of any unauthorized use or disclosure by a Party of the other Party's Confidential Information, including the other Party's trade secrets.

11.1.2. **Confidential Information of Each Party**. All information disclosed prior to the Effective Date pursuant to the Confidentiality Agreement between the Parties dated [***] (the "**Confidentiality Agreement**"), by Metagenomi to Ionis will be Confidential Information of Metagenomi and by Ionis to Metagenomi will be Confidential Information of Ionis. All Ionis Royalty Reports and reports identifying Ionis Product Development Milestone Events, Ionis Product Regulatory Milestone Events, and Ionis Product Sales Milestone Events will be considered Confidential Information of Ionis. All Metagenomi Royalty Reports and reports identifying Metagenomi Product Milestone Events will be the Confidential Information of Metagenomi. The Product-Specific Know-How, Joint Collaboration Know-How, and the non-disclosed terms of this Agreement will be the Confidential Information of each Party.

11.1.3. **Exceptions to Confidentiality**. The following information will not be Confidential Information of the Disclosing Party, and accordingly the obligations of each Receiving Party imposed by Section 11.1.1 (General) will not apply to any such information that: (a) was known to the Receiving Party without an obligation to keep such information confidential prior to the Effective Date other than as a result of disclosure under any other agreement between the Parties, including the Confidentiality Agreement (as demonstrated by documentary evidence); (b) is or becomes generally available to the public through means other than an unauthorized disclosure by the Receiving Party, its Affiliates, or any agents to whom it or they disclosed such information; (c) was or subsequently is disclosed to the Receiving Party without restriction by a Third Party having a *bona fide* right to disclose such Confidential Information without breaching any obligation to the Disclosing Party; or (d) is developed independently by the Receiving Party without benefit of or recourse to any of the Disclosing Party's Confidential Information (as demonstrated by documentary evidence). For clarity, (i) specific aspects or details of Confidential Information will not be deemed to be within the public domain or in the possession of the Receiving Party merely because the Confidential Information is embraced by more general information in the public domain or in the possession of the Receiving Party; and (ii) any combination of Confidential Information will not be considered in the public domain or in the possession of the Receiving Party merely because individual elements of such Confidential Information are in the public domain or in the possession of the Receiving Party unless the combination and its principles are in the public domain or in the possession of the Receiving Party.

11.1.4. **Permitted Disclosures**. The Receiving Party may disclose Confidential Information of the Disclosing Party to the extent (and solely to the extent) that such disclosure is reasonably necessary in the following instances:

(a) (i) the prosecution and maintenance of Licensed Patent Rights and Joint Collaboration Patent Rights, in each case, in accordance with the terms of this Agreement; or (ii) Regulatory Submissions and other filings with Governmental Authorities (including Regulatory Authorities), as necessary for the Exploitation of a Licensed Product;

(b) disclosure of the existence and applicable terms of this Agreement and the status and results of Exploitation of one or more Licensed Products to actual or *bona fide* potential investors, acquirors, Sublicensees, lenders, and other financial or commercial partners (including in connection with any royalty factoring transaction), and their respective attorneys, accountants, banks, investors, and advisors, solely for the purpose of evaluating or carrying out an actual or potential investment, acquisition, sublicense, debt transaction, or collaboration; *provided* that, in each such case, (i) such Persons are bound by obligations of confidentiality, non-disclosure, and non-use provisions at least as restrictive or protective of the Parties as those set forth in this Agreement or otherwise customary for such type and scope of disclosure, and (ii) that any such disclosure is limited to the maximum extent practicable for the particular context in which it is being disclosed; *provided* that in no event will a disclosure of Confidential Information under this Section 11.1.4(b) be made, with respect to Ionis as the Receiving Party, to a [***] or with respect to Metagenomi as the Receiving Party, to an [***], in each case, without the prior written consent of the other Party;

(c) to comply with Applicable Law (whether generally or in pursuit of an application for listing of securities) including the United States Securities and Exchange Commission or equivalent foreign agency or regulatory body, or otherwise required by judicial or administrative process; *provided* that in each such event, as promptly as reasonably practicable and to the extent not prohibited by Applicable Law or judicial or administrative process, such Party will notify the other Party of such required disclosure and provide a draft of the disclosure to the other Party reasonably in advance of such filing or disclosure for the other Party's review and comment. The non-disclosing Party will provide any comments as soon as practicable, and the disclosing Party will consider in good faith any timely comments provided by the non-disclosing Party; *provided* that the disclosing Party may or may not accept such comments in its sole discretion. Confidential Information that is disclosed in order to comply with Applicable Law or by judicial or administrative process pursuant to this Section 11.1.4(c), in each case, will remain otherwise subject to the confidentiality and non-use provisions of this Article 11 (Confidentiality) with respect to the Party disclosing such Confidential Information, and such Party will take all steps reasonably necessary, including seeking of confidential treatment or a protective order for a period of at least [***] (to the extent permitted by Applicable Law or Governmental Authority), to ensure the continued confidential treatment of such Confidential Information, and each Party will be responsible for its own legal and other external costs in connection with any such filing or disclosure pursuant to this Section 11.1.4(c);

(d) to prosecute or defend litigation so long as there is [***] prior written notice given by the Receiving Party before filing, and to enforce Patent Rights in connection with the Receiving Party's rights and obligations pursuant to this Agreement; and

(e) to allow the Receiving Party to exercise its rights and perform its obligations hereunder; *provided* that such disclosure is covered by terms of confidentiality and non-use at least as restrictive as those set forth herein.

If and whenever any Confidential Information is disclosed in accordance with this Section 11.1.4 (Permitted Disclosures), such disclosure will not cause any such information to cease to be Confidential Information except to the extent that such disclosure results in a public disclosure of such information (other than by breach of this Agreement).

11.2. **No Use of Name**. Neither Party will use the other Party's name, logo, or Trademarks in any promotional materials or advertising without the prior written consent of the other Party, except as provided under this Agreement or required by Applicable Law, in which case the Party disclosing such name, logo, or Trademarks will give advance notice of such use and otherwise comply with Section 11.1.4(c).

11.3. **Residual Knowledge**. Notwithstanding any provision to the contrary set forth in this Agreement, a Receiving Party will not be liable for the use of any knowledge, technique, experience, or Know-How that is retained in the unaided memory of any officers, directors, agents, contractors, or employees of such Receiving Party after having access to such Confidential Information ("**Residual Knowledge**"), *provided* that such officer, director, agent, contractor, or employee (a) has not intentionally memorized such Residual Knowledge, (b) is not aware at the time of use that such Residual Knowledge is the Confidential Information of the Disclosing Party, and (c) has not been directed or encouraged by the Receiving Party to memorize such Residual Knowledge. Any use made by the Receiving Party of any such Residual Knowledge is on an "as is, where is" basis, with all faults and all representations and warranties disclaimed and at its sole risk. For clarity, no license under any Patent Right is granted pursuant to this Section 11.3 (Residual Knowledge).

11.4. **Public Announcements and Subsequent Disclosures**. Except as may be expressly permitted under Section 11.1.4 (Permitted Disclosures), neither Party will make any public announcement regarding this Agreement without the prior written approval of the other Party, except for either Party's references to the other as the licensor or licensee (as applicable) or a collaboration partner under this Agreement. For clarity, Ionis may make scientific publications or public announcements concerning Ionis' Exploitation of any Licensed Product under this Agreement pursuant to Section 11.5.1 (Ionis Publications); *provided* that, except as permitted under Section 11.1.4 (Permitted Disclosures), Ionis will not disclose any of Metagenomi's Confidential Information in any such publication or announcement without obtaining Metagenomi's prior written consent to do so. The Parties may each issue, or, by agreement of the Parties, may jointly issue, a press release announcing the signing of this Agreement after the Effective Date. The press release(s) to be issued by the Parties on or after the Effective Date will be substantially in the form of the press release(s) attached hereto as Schedule 11.4 (Press Release(s)). After the issuance of any such press release or any other permitted public disclosure by a Party, each Party may make subsequent public disclosures reiterating such information without having to obtain the other Party's prior consent and approval so long as the information in such press release or other public announcement remains true, correct, and the most current information with respect to the subject matters set forth therein.

11.5. **Publications**.

11.5.1. **Ionis Publications.**

(a) During the Collaboration Term, Ionis will submit to Metagenomi for review any proposed academic, scientific, or medical publication or public presentation related to any Licensed System or Licensed Product or to any activities conducted pursuant to this Agreement. Metagenomi will review such publication or presentation for purposes of determining whether any portion of the proposed

publication or presentation contains Metagenomi's Confidential Information. Ionis will submit written copies of such proposed publication or presentation to Metagenomi no later than [***] before submission for publication or presentation (or [***] in advance in the case of an abstract). Metagenomi will provide its comments with respect to such publications and presentations within [***] after its receipt of such written copy (or [***] in the case of an abstract). Metagenomi will have the right: (i) to require the removal of its Confidential Information from any such publication or presentation and (ii) to request a reasonable delay in publication or presentation in order to protect patentable information. If Metagenomi requests such a delay, then Ionis will delay submission or presentation for a period of [***] after its provision of the copy of the proposed publication or disclosure to enable patent applications protecting Metagenomi's rights in such information. Ionis will comply with standard academic practice regarding authorship of scientific publications and recognition of contribution of other parties in any publication.

(b) Unless otherwise agreed in a Co-Development and Co-Commercialization Agreement, after the Collaboration Term, Ionis will have the right upon at least [***] prior written notice to Metagenomi, without any required consent or review from Metagenomi but subject to this Article 11 (Confidentiality), to publish or publicly disclose the scientific results of any activities conducted with respect to any Licensed System or Licensed Product or any other activities conducted pursuant to this Agreement; *provided* that if Metagenomi reasonably believes that such disclosure would adversely affect the use of any Licensed System for applications outside of the Field, then Ionis will reasonably consider any comments to such disclosure provided by Metagenomi in such [***] period.

11.5.2. **Metagenomi Publications**. During the Term, Metagenomi will not publish or publicly disclose the scientific results of any activities it conducts that are specific to the Licensed System or Licensed Product in the Field, or any other activities conducted pursuant to this Agreement and exclusively licensed to Ionis, in each case, without the prior written consent of Ionis (such consent not to be unreasonably withheld, conditioned, or delayed).

Article 12
Representations, Warranties, and Covenants

12.1. **Mutual Representations and Warranties**. As of the Effective Date, Metagenomi and Ionis each hereby represents and warrants to the other as follows:

12.1.1. It is a corporation duly organized, validly existing, and in good standing under the laws of the jurisdiction of its organization, and has all requisite power and authority, corporate or otherwise, to execute, deliver, and perform this Agreement.

12.1.2. The execution and delivery of this Agreement and the performance by it of the transactions contemplated hereby have been duly authorized by all necessary corporate action and will not violate (a) such Party's certificate of incorporation or bylaws (or equivalent charter or organizational documents), (b) any agreement, instrument or contractual obligation to which such Party is bound, (c) any requirement of any Applicable Law, or (d) any order, writ, judgment, injunction, decree, determination, or award of any court or Governmental Authority presently in effect applicable to such Party.

12.1.3. It is not under any obligation, contractual or otherwise, to any Person that conflicts with or is inconsistent in any respect with the terms of this Agreement or that will impede the diligent and complete fulfillment of its obligations hereunder.

12.1.4. There is no action or proceeding pending or, to the knowledge of such Party, threatened that could reasonably be expected to impair or delay the ability of such Party to perform its obligations under this Agreement.

12.1.5. All consents, approvals, and authorizations from all Governmental Authorities or other Third Parties required to be obtained by such Party in connection with this Agreement, including the grant of any licenses, have been obtained.

12.2. **Additional Representations of Metagenomi**. As of the Effective Date and the date on which each new target becomes a Collaboration Target pursuant to Section 2.1.1(b) (Second Wave 1 Target) or Section 2.1.4(c) (Effects if a Proposed Target is Available) (unless otherwise noted below), Metagenomi further represents and warrants to Ionis, that, except as set forth on Schedule 12.2 (Metagenomi Disclosure Schedule) (which schedule may be updated each time a target becomes a Collaboration Target):

12.2.1. To Metagenomi's Knowledge, the practice of the Warranty Technology and the Metagenomi Platform as contemplated by this Agreement will not (a) constitute misappropriation of any Know-How of any Third Party, or (b) infringe any Patent Rights of any Third Party.

12.2.2. Metagenomi Controls all Patent Rights and Know-How owned or in-licensed by Metagenomi that are necessary to Exploit licensed systems discovered using the Metagenomi Platform in the Field. For purposes of this Section 12.2.2, "licensed systems" mean a Gene Editing protein and a Guide RNA that is designed to modulate a target.

12.2.3. Metagenomi is the sole and exclusive owner or, if applicable, exclusive licensee, of all Warranty Technology, all of which is free and clear of any liens, charges, restrictions, and encumbrances (other than licenses granted to Third Parties that are not inconsistent with the options, rights, and licenses granted to Ionis hereunder), and neither any assignment, license, sublicense, or other grant of any interest in or options to the Warranty Technology granted by Metagenomi or its Affiliates to any Third Party, nor any assignment, license, sublicense, or other grant of any interest in or options to the Warranty Technology granted by any Third Party to Metagenomi or its Affiliates conflicts with the options, rights, and licenses granted to Ionis hereunder, and Metagenomi is entitled to grant all rights and licenses under the Warranty Technology that it purports to grant to Ionis under this Agreement.

12.2.4. Schedule 1.146 (Licensed Patent Rights) sets forth a true, correct, and complete list of all Licensed Patent Rights as of the Effective Date. To the extent a Licensed Patent Right is omitted from Schedule 1.146 (Licensed Patent Rights) as of the Effective Date, Metagenomi agrees and covenants to add such omitted Licensed Patent Right to Schedule 1.146 (Licensed Patent Rights), and that any such added Licensed Patent Right is deemed included in the licenses granted to Ionis pursuant to Section 3.1 (License Grants to Ionis) as of the Effective Date; *provided* that, for clarity, any Patent Right that otherwise meets the definition of Licensed Patent Rights will be deemed a Licensed Patent Right and included in the licenses granted to Ionis pursuant to Section 3.1 (License Grants to Ionis) from the time such Patent Right existed whether or not it is included on Schedule 1.146 (Licensed Patent Rights).

12.2.5. All issued Patent Rights within the Warranty Technology are in full force and effect and, to Metagenomi's Knowledge, have been Prosecuted and Maintained from the respective patent offices in accordance with Applicable Law. Metagenomi has not received any written claims from any Third Party that any such issued Patent Rights are invalid or unenforceable.

12.2.6. With respect to the Patent Rights within the Warranty Technology, each patent properly identifies each and every inventor of the claims thereof as determined in accordance with the laws of the jurisdiction in which such patent is issued or such application is pending, Metagenomi has obtained assignments from any and all inventors of all inventorship rights relating to such Patent Rights, all such assignments of inventorship rights relating to such Patent Rights have been properly executed and recorded in the relevant U.S. and foreign patent offices, and each such inventor has complied in all material respects with all applicable duties of candor and good faith in dealing with any patent office, including the duty to disclose to any applicable patent office all information known to be material to patentability.

12.2.7. To Metagenomi's Knowledge, no circumstances or grounds exist that would invalidate, reduce or eliminate, in whole or in part, the enforceability, validity or scope of any Patent Rights within the Warranty Technology.

12.2.8. Other than the Metagenomi In-License Agreements (if any), there is no agreement between Metagenomi or any of its Affiliates and any Third Party pursuant to which Metagenomi or its Affiliate has acquired Control of any of the Licensed Technology, and no Third Party has any rights, title, or interests in or to, or any license under, any of the Licensed Technology.

12.2.9. All Metagenomi In-License Agreements (if any) are in full force and effect. Neither Metagenomi nor its Affiliates nor, to Metagenomi's Knowledge, the Third Party licensor in a Metagenomi In-License Agreement is in default with respect to a material obligation under such Metagenomi In-License Agreement, as applicable, and no such party has claimed or has grounds upon which to claim that the other party is in default with respect to any obligation or permit, termination, modification, or acceleration under any Metagenomi In-License Agreement.

12.2.10. Metagenomi and its Affiliates have taken commercially reasonable measures consistent with industry practices to protect the secrecy, confidentiality, and value of all Warranty Technology that constitutes trade secrets under Applicable Law (including requiring all employees, consultants, and independent contractors to execute binding and enforceable agreements requiring all such employees, consultants, and independent contractors to maintain the confidentiality of such Warranty Technology) and, to Metagenomi's Knowledge, such Warranty Technology has not been used, disclosed to, or discovered by any Third Party except pursuant to such confidentiality agreements and to Metagenomi's Knowledge, there has not been a breach by any party to such confidentiality agreements.

12.2.11. The Warranty Technology have not been created pursuant to, and are not subject to, any funding agreement with any Governmental Authority or any Third Party, and are not subject to the requirements of the Bayh-Dole Act or any similar provision of any Applicable Law.

12.2.12. To Metagenomi's Knowledge, no Third Party has infringed, misappropriated, or otherwise violated, or is currently infringing, misappropriating, or otherwise violating any Warranty Technology, and neither Metagenomi nor its Affiliates have brought any claim or sent any notice alleging any such infringement, misappropriation, or violation.

12.2.13. There are no judgments or settlements against Metagenomi or any of its Affiliates, any pending or, to Metagenomi's Knowledge, threatened claims or litigation in writing, or written offers for Metagenomi to acquire or license any Third Party Intellectual Property Rights, in each case, in connection with the Warranty Technology or the practice thereof, or relating to the transactions contemplated by this Agreement.

12.2.14. Metagenomi has not employed (and has not used a Subcontractor that has employed) any Person debarred by the FDA (or subject to a similar sanction of EMA or foreign equivalent), or any Person that is the subject of an FDA debarment investigation or proceeding (or similar proceeding of EMA or foreign equivalent), in any capacity in connection with this Agreement, the Warranty Technology, or the Metagenomi Platform.

12.3. Covenants of Metagenomi. Metagenomi covenants to Ionis as follows:

12.3.1. Metagenomi and its Affiliates will maintain Control of all Licensed Technology and Licensed Systems owned by Metagenomi or its Affiliates at any time during the Term.

12.3.2. Metagenomi and its Affiliates will not grant or permit to be attached, any lien, security interest, or other encumbrance with respect to any Licensed Technology which would adversely affect the rights granted to Ionis hereunder.

12.3.3. Neither Metagenomi nor any of its Affiliates will effect any corporate restructuring or enter into any new agreement or otherwise obligate itself to any Third Party, in each case, in a manner that conflicts with or otherwise adversely affects the options, rights, and licenses granted to Ionis hereunder.

12.3.4. Metagenomi will maintain and not breach, and will cause its Affiliates to maintain and not breach, the Metagenomi In-License Agreements, if any, or any license agreements that come into effect after the Effective Date pursuant to which Ionis receives a sublicense hereunder.

12.3.5. [***].

12.3.6. [***].

12.3.7. Metagenomi will, and will ensure that its Affiliates, Sublicensees, and Subcontractors, obtain agreements from any and all Persons involved in or performing any Development by or on behalf of Metagenomi that assign such Persons' rights, title, and interests in and to any Licensed Technology to Metagenomi prior to any such person performing such activities.

12.3.8. Metagenomi will, and will ensure that its Affiliates, comply with Applicable Law in connection with the performance of its and its Affiliates' activities under this Agreement.

12.3.9. Metagenomi will not, and will ensure that its Affiliates will not, take any action or enter into any agreement with any Third Party that conflicts with or in any way relinquishes or otherwise diminishes the rights granted to Ionis under this Agreement.

12.3.10. In performing under this Agreement, Metagenomi and its Affiliates agree to comply with all applicable anti-corruption laws, including the Foreign Corrupt Practices Act of 1977, as amended from time-to-time; the anti-corruption laws of the Territory; and all laws enacted to implement the Organization for Economic Cooperation and Development Convention on Combating Bribery of Foreign Officials in International Business Transactions.

12.3.11. Metagenomi will not directly or indirectly offer or pay, or authorize such offer or payment of, any money, or transfer anything of value, to improperly seek to influence: (a) any elected or appointed government official (e.g., a member of a ministry of health); (b) any employee or person acting for or on behalf of a Governmental Authority; (c) any political party officer, employee, or person acting for or on behalf of a political party or candidate for public office; (d) an employee or person acting for or on behalf of a public international organization; or (e) any person otherwise categorized as a government official under local law.

12.3.12. Neither Metagenomi nor its Affiliates will export, transfer, or sell any Licensed Product to any country or territory except in compliance with Applicable Law.

12.3.13. Metagenomi will not, to Metagenomi's Knowledge, engage directly or indirectly, in any capacity in connection with this Agreement any Person who either has been debarred by the FDA, is the subject of a conviction described in Section 306 of the FD&C Act or is subject to any such similar sanction. Metagenomi will inform Ionis in writing promptly if it or any Person engaged by Metagenomi or any of its Affiliates who is performing services under this Agreement or any ancillary agreements is debarred or is the subject of a conviction described in Section 306 of the FD&C Act, or if any action, suit, claim, investigation or legal or administrative proceeding is pending or, to Metagenomi's Knowledge, is threatened, relating to the debarment or conviction of Metagenomi, any of its Affiliates or any such Person performing services hereunder or thereunder.

12.3.14. Metagenomi will not, and will cause its Affiliates and Sublicensees not to, use or practice the Ionis Background Technology, including the Ionis Proprietary Toolbox of Chemical Modifications, except in accordance with this Agreement.

12.4. **Additional Representations of Ionis**. As of each Ionis IP Option Effective Date, Ionis represents and warrants to Metagenomi that, except as set forth on Schedule 12.4 (Ionis Disclosure Schedule) (which schedule may be updated each time a Proposed Metagenomi Target becomes a Metagenomi Target):

12.4.1. To Ionis' Knowledge, the practice of the Ionis Background Technology as contemplated by this Agreement will not (a) constitute misappropriation of any Know-How of any Third Party, or (b) infringe any Patent Rights of any Third Party.

12.4.2. Ionis is the owner, or licensee, of all Ionis Background Technology, all of which is free and clear of any liens, charges, restrictions, and encumbrances (other than licenses granted to Third Parties that are not inconsistent with the options, rights, and licenses granted to Metagenomi hereunder), and neither any assignment, license, sublicense, or other grant of any interest in or options to the Ionis Background Technology granted by Ionis or its

Affiliates to any Third Party, nor any assignment, license, sublicense, or other grant of any interest in or options to the Ionis Background Technology granted by any Third Party to Ionis or its Affiliates conflicts with the options, rights, and licenses granted to Metagenomi hereunder, and Ionis is entitled to grant all rights and licenses under the Ionis Background Technology that it purports to grant to Metagenomi under this Agreement.

12.4.3. The Ionis Background Technology have not been created pursuant to, and are not subject to, any funding agreement with any Governmental Authority or any Third Party, and are not subject to the requirements of the Bayh-Dole Act or any similar provision of any Applicable Law.

12.4.4. To Ionis' Knowledge, no Third Party has infringed, misappropriated, or otherwise violated, or is currently infringing, misappropriating, or otherwise violating any Ionis Background Technology in a manner that would be reasonably likely to adversely affect Metagenomi, and neither Ionis nor its Affiliates have brought any claim or sent any notice alleging any such infringement, misappropriation, or violation.

12.4.5. There are no judgments or settlements against Ionis or any of its Affiliates, any pending or, to Ionis' Knowledge, threatened claims or litigation in writing, or written offers for Ionis to acquire or license any Third Party Intellectual Property Rights, in each case, in connection with the Ionis Background Technology or the practice thereof, or relating to the transactions contemplated by this Agreement.

12.4.6. Ionis has not employed (and has not used a Subcontractor that has employed) any Person debarred by the FDA (or subject to a similar sanction of EMA or foreign equivalent), or any Person that is the subject of an FDA debarment investigation or proceeding (or similar proceeding of EMA or foreign equivalent), in any capacity in connection with this Agreement or the Ionis Background Technology.

12.5. **Covenants of Ionis**. Ionis covenants to Metagenomi as follows:

12.5.1. Neither Ionis nor any of its Affiliates will effect any corporate restructuring or enter into any new agreement or otherwise obligate itself to any Third Party, in each case, in a manner that conflicts with or otherwise adversely affects the options, rights, and licenses granted to Metagenomi hereunder.

12.5.2. Ionis will, and will ensure that its Affiliates, comply with all Applicable Law in connection with the performance of its and its Affiliates' activities under this Agreement.

12.5.3. Ionis will not, and will ensure that its Affiliates will not, take any action or enter into any agreement with any Third Party that conflicts with or in any way relinquishes or otherwise diminishes the rights granted to Metagenomi under this Agreement.

12.5.4. In performing under this Agreement, Ionis and its Affiliates agree to comply with all applicable anti-corruption laws, including the Foreign Corrupt Practices Act of 1977, as amended from time-to-time; the anti-corruption laws of the Territory; and all laws enacted to implement the Organization for Economic Cooperation and Development Convention on Combating Bribery of Foreign Officials in International Business Transactions.

12.5.5. Ionis will not directly or indirectly offer or pay, or authorize such offer or payment of, any money, or transfer anything of value, to improperly seek to influence: (a) any elected or appointed government official (e.g., a member of a ministry of health); (b) any employee or person acting for or on behalf of a Governmental Authority; (c) any political party officer, employee, or person acting for or on behalf of a political party or candidate for public office; (d) an employee or person acting for or on behalf of a public international organization; or (e) any person otherwise categorized as a government official under local law.

12.5.6. Neither Ionis nor its Affiliates will export, transfer, or sell any Licensed Product to any country or territory except in compliance with Applicable Law.

12.5.7. Ionis will not, to Ionis' Knowledge, engage directly or indirectly, in any capacity in connection with this Agreement any Person who either has been debarred by the FDA, is the subject of a conviction described in Section 306 of the FD&C Act or is subject to any such similar sanction. Ionis will inform Metagenomi in writing promptly if it or any Person engaged by Ionis or any of its Affiliates who is performing services under this Agreement or any ancillary agreements is debarred or is the subject of a conviction described in Section 306 of the FD&C Act, or if any action, suit, claim, investigation or legal or administrative proceeding is pending or, to Ionis' Knowledge, is threatened, relating to the debarment or conviction of Ionis, any of its Affiliates or any such Person performing services hereunder or thereunder.

12.5.8. Ionis will not, and will cause its Affiliates not to, use or practice the Licensed Technology, except in accordance with this Agreement.

12.6. **Warranty Disclaimer**. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER PARTY MAKES ANY REPRESENTATION OR EXTENDS ANY WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. IN PARTICULAR, IONIS DOES NOT MAKE ANY REPRESENTATION OR EXTEND ANY WARRANTY THAT THE LICENSED SYSTEMS OR LICENSED PRODUCTS WILL BE SUCCESSFULLY DEVELOPED OR COMMERCIALIZED HEREUNDER.

Article 13
Indemnification; Limitation of Liability; Insurance

13.1. **Indemnification of Metagenomi by Ionis**. Subject to Section 13.4 (Conditions to Indemnification), Ionis will defend, indemnify, and hold harmless Metagenomi and its Affiliates, Sublicensees, Subcontractors, and their respective employees, officers, and directors ("**Metagenomi Indemnitees**") from and against any and all liability, damage, loss, cost, or expense of any nature (including reasonable attorney's fees and litigation expenses) ("**Losses**") incurred or imposed upon the Metagenomi Indemnitees in connection with any claims, suits, actions, demands, proceedings, causes of action, or judgments resulting from a Third Party claim ("**Third Party Claims**") arising out of or relating to:

13.1.1. the Exploitation of any Licensed System or Licensed Product by or on behalf of any Ionis Indemnitee other than (a) claims by one or more Third Parties relating to patent infringement arising out of the practice of the Licensed Patent Rights in accordance with this Agreement, (b) claims by Third Parties relating to misappropriation of trade secrets or other Intellectual Property Rights arising out of the practice of the Licensed Know-How in accordance with this Agreement, or (c) Losses shared pursuant to Section 13.3 (Losses for the Co-Co Products);

13.1.2. the breach by any Ionis Indemnitee of any term of this Agreement; or

13.1.3. the negligence or willful misconduct of any Ionis Indemnitee except, in each case (Section 13.1.1 through Section 13.1.3), to the extent that any such claim results or arises from a matter for which Metagenomi is obligated to indemnify Ionis under Section 13.2 (Indemnification of Ionis by Metagenomi).

13.2. **Indemnification of Ionis by Metagenomi**. Subject to Section 13.4 (Conditions to Indemnification), Metagenomi will defend, indemnify, and hold harmless Ionis and its Affiliates, Sublicensees, and Subcontractors, and their respective employees, officers, and directors ("**Ionis Indemnitees**") from and against any and all Losses incurred or imposed upon the Ionis Indemnitees or any one of them in connection with one or more Third Party Claims arising out of or relating to:

13.2.1. any claim that the composition of matter [***] of a Gene Editing protein to edit gene targets (but not to edit the Collaboration Targets specifically) infringes or misappropriates any issued Patent Right or other Intellectual Property Right owned or possessed by any Third Party;

13.2.2. the Exploitation of any Licensed System that is included within a Licensed Product by any Metagenomi Indemnitee, other than Losses shared pursuant to Section 13.3 (Losses for the Co-Co Products) and any amounts [***];

13.2.3. the Exploitation of any Licensed System or Licensed Product by or on behalf of any Metagenomi Indemnitee prior to the Effective Date and after termination of this Agreement;

13.2.4. the Exploitation of any Metagenomi Product by or on behalf of any Metagenomi Indemnitee;

13.2.5. the breach by any Metagenomi Indemnitee of any term of this Agreement; or

13.2.6. the negligence or willful misconduct of any Metagenomi Indemnitee except, in each case (Section 13.2.1 through Section 13.2.6), to the extent that any such claim results or arises from a matter for which Ionis is obligated to indemnify Metagenomi under Section 13.1 (Indemnification of Metagenomi by Ionis).

13.3. **Losses for the Co-Co Products**. All Losses incurred by either Party arising from any Third Party Claim relating to the Exploitation of the Co-Co Products will be shared by the Parties pursuant to the Co-Development and Co-Commercialization Agreement; *provided* that the Parties will not share Losses of a Party or its Affiliates to the extent such Losses are (a) caused by a breach of this Agreement by a Party or Affiliate or (b) caused by gross negligence or willful misconduct of a Party or its Affiliate. As will be further set forth in the applicable Co-Development and Co-Commercialization Agreement, if either Party learns of any Third Party Claim with respect to Losses covered by this Section 13.3 (Losses for the Co-Co Products), such Party will provide the other Party with prompt written notice thereof, and the Parties will confer with respect to how to respond to such Third Party Claim and how to handle such Third Party Claim in an efficient manner. In the absence of such an agreement, each Party will have the right to take such action as it deems appropriate.

13.4. **Conditions to Indemnification**. Any Person seeking indemnification under this Article 13 (Indemnification; Limitation Of Liability; Insurance) (the "**Indemnitee**") will give prompt written notice of the indemnity claim to the indemnifying Party and promptly provide a copy to the indemnifying Party of any complaint, summons, or other written or verbal notice that the Indemnitee receives in connection with any such claim. An Indemnitee's failure to deliver written notice will relieve the indemnifying Party of liability to the Indemnitee under this Article 13 (Indemnification; Limitation Of Liability; Insurance) only to the extent such delay is prejudicial to the indemnifying Party's ability to defend or settle such claim. The indemnifying Party will have the right to assume and control the defense of the indemnification claim at its own expense with counsel selected by the indemnifying Party and reasonably acceptable to the Indemnitee; *provided*, *however*, that an Indemnitee will have the right to retain its own counsel that is reasonably acceptable to the indemnifying Party, with the fees and expenses to be paid by the indemnifying Party, if representation of such Indemnitee by the counsel retained by the indemnifying Party would be inappropriate due to actual or potential differing interests between the Indemnitee and any other party represented by such counsel in such proceedings. The indemnifying Party will act reasonably and in good faith with respect to all matters relating to such claim. If the indemnifying Party does not assume the defense of the indemnification claim as described in this Section 13.4 (Conditions to Indemnification), then the Indemnitee may defend the indemnification claim but will have no obligation to do so. The Indemnitee will not settle or compromise the indemnification claim without the prior written consent of the indemnifying Party, and the indemnifying Party will not settle or compromise the indemnification claim in any manner which would have an adverse effect on the Indemnitee's interests (including any rights under this Agreement or the scope, validity, or enforceability of any Patent Rights, Confidential Information, or other rights licensed to Ionis by Metagenomi hereunder), without the prior written consent of the Indemnitee, which consent, in each case (by the indemnifying Party or the Indemnitee, as the case may be), will not be unreasonably withheld, conditioned, or delayed. The Indemnitee will reasonably cooperate with the indemnifying Party at the indemnifying Party's expense and will make available to the indemnifying Party all pertinent information under the control of the Indemnitee, which information will be subject to Article 11 (Confidentiality). The indemnifying Party will not be liable for any settlement or other disposition of the claims by the Indemnitee if such settlement is reached without the written consent of the indemnifying Party pursuant to this Section 13.4 (Conditions to Indemnification).

13.5. **Limited Liability**. NEITHER OF THE PARTIES NOR THEIR RESPECTIVE AFFILIATES OR SUBLICENSEES WILL BE ENTITLED TO RECOVER FROM THE OTHER PARTY OR ITS AFFILIATES OR SUBLICENSEES ANY SPECIAL, INCIDENTAL, INDIRECT, CONSEQUENTIAL, OR PUNITIVE DAMAGES OR DAMAGES FOR LOSS OF PROFIT, LOST OPPORTUNITY, LOST DATA OR COST OF PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES IN CONNECTION WITH THIS AGREEMENT, ITS PERFORMANCE OR LACK OF PERFORMANCE HEREUNDER, WHETHER LIABILITY IS ASSERTED IN CONTRACT, TORT (INCLUDING NEGLIGENCE AND STRICT PRODUCT LIABILITY), INDEMNITY OR CONTRIBUTION, AND IRRESPECTIVE OF WHETHER THAT PARTY OR ANY REPRESENTATIVE OF THAT PARTY HAS BEEN ADVISED OF, OR OTHERWISE MIGHT HAVE ANTICIPATED THE POSSIBILITY OF, ANY SUCH LOSS OR DAMAGE, OR ANY LICENSE GRANTED HEREUNDER, EXCEPT TO THE EXTENT THE DAMAGES RESULT FROM (A) A PARTY'S WILLFUL MISCONDUCT OR GROSS NEGLIGENCE UNDER THIS AGREEMENT, (B) A BREACH OF THE OBLIGATIONS OF A PARTY UNDER ARTICLE 11 (CONFIDENTIALITY) OR UNDER SECTION 3.6 (EXCLUSIVITY), OR (C) AMOUNTS REQUIRED TO BE PAID AS PART OF A CLAIM FOR WHICH A PARTY PROVIDES INDEMNIFICATION UNDER ARTICLE 13 (INDEMNIFICATION; LIMITATION OF LIABILITY; INSURANCE).

13.6. **Insurance Obligations**. Each Party will, at its own expense, procure and maintain during the Term and for a period of [***] thereafter, insurance policies, including product liability insurance when applicable, adequate to cover its obligations hereunder and that are consistent with normal business practices of prudent companies similarly situated. Such insurance will not be construed to create a limit of a Party's liability with respect to its indemnification obligations under this Article 13 (Indemnification; Limitation of Liability; Insurance). Each Party will provide the other Party with written evidence of such insurance. Notwithstanding any provision to the contrary set forth in this Agreement, Ionis may self-insure, in whole or in part, the insurance requirements described above.

Article 14
Term and Termination

14.1. **Term**. This Agreement will commence on the Effective Date and, unless otherwise terminated pursuant to Section 14.2 (Termination), will continue (a) with respect to the Ionis Programs, on an Ionis Product-by-Ionis Product and country-by-country basis until the expiration of all applicable Royalty Terms for an Ionis Product in a country, (b) with respect to the Co-Co Programs for which Metagenomi has not exercised its Opt-Out Right in accordance with Section 5.4 (Metagenomi Opt-Out), on a Co-Co Program-by-Co-Co Program basis until the Parties cease all Exploitation for the Co-Co Products that are the subject to such Co-Co Program, and (c) with respect to the Metagenomi Products, on a Metagenomi Product-by-Metagenomi Product and country-by-country basis until the expiration of the Metagenomi Royalty Term for a Metagenomi Product in a country (the "**Term**"). On a Licensed Product-by-Licensed Product and country-by-country basis, effective upon the expiration of the Royalty Term for a Licensed Product in a country (but not upon any earlier termination of this Agreement for any reason), the licenses granted to Ionis will each become fully paid-up, royalty-free, irrevocable, and perpetual in such country with respect to such Licensed Product. On a Metagenomi Product-by-Metagenomi Product and country-by-country basis, effective upon the expiration of the Metagenomi Royalty Term for a Metagenomi Product in a country (but not upon any earlier termination of this Agreement for any reason), the licenses granted to Metagenomi will each become fully paid-up, royalty-free, irrevocable, and perpetual in such country with respect to such Metagenomi Product.

14.2. **Termination**. This Agreement may be terminated as follows:

14.2.1. **Termination for Convenience by Ionis**. Ionis may terminate this Agreement (either in its entirety or on a Licensed Product-by-Licensed Product basis), for convenience by providing written notice of its intent to terminate to Metagenomi, in which case, such termination will be effective 90 days after Metagenomi's receipt of such written notice.

14.2.2. **Termination for Material Breach**.

(a) **Ionis' Right to Terminate**. If Metagenomi is in material breach of this Agreement, then Ionis may deliver written notice of such material breach to Metagenomi. If the breach is curable, then Metagenomi will have [***] following its receipt of such written notice to cure such breach (except to the extent such breach involves the failure to make a payment when due, in which case such breach must be cured within [***] following Metagenomi's receipt of such written notice). If Metagenomi fails to cure such breach within such [***] or [***] period, as applicable, or the breach is not subject to cure, then Ionis may terminate this Agreement solely with respect to those Licensed Products to which such material breach relates, or in its entirety if such material breach relates to all Licensed Products, by providing written notice to Metagenomi, in which case, this

Agreement will terminate on the date on which Metagenomi receives such written notice; *provided*, *however*, that if (A) the relevant breach does not involve Metagenomi's failure to make a payment when due and is curable, but not reasonably curable within [***], and (B) Metagenomi is making a *bona fide* effort to cure such breach, then Ionis' right to terminate this Agreement on account of such breach will be suspended for up to an additional [***] so long as Metagenomi is continuing to make such *bona fide* effort to cure such breach. If such breach is successfully cured during the applicable cure period, then Ionis will no longer have the right to terminate this Agreement on account of such breach.

(b) **Metagenomi's Right to Terminate**. If Ionis is in material breach of this Agreement, then Metagenomi may deliver written notice of such material breach to Ionis. If the breach is curable, then Ionis will have [***] following its receipt of such written notice to cure such breach (except to the extent such breach involves the failure to make a payment when due, in which case such breach must be cured within [***] following Ionis' receipt of such written notice). If Ionis fails to cure such breach within the [***] or [***] period, as applicable, or the breach is not subject to cure, then Metagenomi may terminate this Agreement in its entirety by providing written notice to Ionis, in which case this Agreement will terminate on the date on which Ionis receives such written notice; *provided*, *however*, that if (i) the relevant breach does not involve Ionis' failure to make a payment when due and is curable, but not reasonably curable within [***], and (ii) Ionis is making a *bona fide* effort to cure such breach, then Metagenomi's right to terminate this Agreement on account of such breach will be suspended for up to an additional [***] so long as Ionis is continuing to make such *bona fide* effort to cure such breach. If such breach is successfully cured during the applicable cure period, then Metagenomi will no longer have the right to terminate this Agreement on account of such breach. Notwithstanding the foregoing, any license granted to Ionis under this Agreement may not be terminated under this Section 14.2.2(b) (Metagenomi's Right to Terminate) if (A) the material breach does not involve the failure to make any material and undisputed portion of a payment due to Metagenomi under Article 9 (Consideration; Financial Terms) and (B) such license is necessary to make, have made, use or sell a Licensed Product for which a Clinical Trial has been Initiated. Termination pursuant to this Section 14.2.2(b) (Metagenomi's Right to Terminate) will not relieve Ionis from liability and damages to Metagenomi for default, and the Parties agree that if monetary damages are available to Metagenomi as a reasonable remedy for any default hereunder, then such monetary remedy will constitute the exclusive remedy for such default in lieu of termination of this Agreement.

(c) **Disputes Regarding Material Breach**. Notwithstanding the foregoing, if the alleged breaching Party in Section 14.2.2(a) (Ionis' Right to Terminate) or Section 14.2.2(b) (Metagenomi's Right to Terminate) disputes in good faith the existence or materiality of any breach, or failure to cure any breach, and provides written notice to the non-breaching Party of such dispute within the relevant cure period, then the non-breaching Party will not have the right to terminate this Agreement in accordance with Section 14.2.2(a) (Ionis' Right to Terminate) or Section 14.2.2(b) (Metagenomi's Right to Terminate), as applicable, unless and until the relevant dispute has been resolved in accordance with Section 15.1 (Dispute Resolution). During the pendency of such dispute, all the terms of this Agreement will remain in effect and the Parties will continue to perform all of their respective obligations hereunder.

14.2.3. **Termination for Insolvency**. If Metagenomi makes an assignment for the benefit of creditors, appoints or suffers appointment of a receiver or trustee over all or substantially all of its property, files a petition under any bankruptcy or insolvency act, or has any such petition filed against it that is not discharged within [***] after the filing thereof (each, an "**Insolvency Event**"), then Ionis may terminate this Agreement in its entirety by providing written notice of its intent to terminate this Agreement to Metagenomi, in which case, this Agreement will terminate on the date on which Metagenomi receives such written notice.

14.3. **Effects of Termination**. In the event of any early termination of this Agreement by a Party pursuant to Section 14.2 (Termination), effective as of the effective date of termination, the following provisions will apply with respect to the Terminated Products in the Terminated Countries:

14.3.1. **Wind-Down**. During the applicable termination notice period, unless otherwise agreed by the Parties, the Parties will begin to wind-down their respective activities under this Agreement to the extent related to the Terminated Products in the Terminated Countries. The JSC will coordinate the wind-down of each Party's efforts under this Agreement with respect to the Terminated Products in the Terminated Countries, or, if the JSC has disbanded, then the Parties will establish an appropriate committee to coordinate such wind-down.

14.3.2. **Termination of Rights and Licenses**. Other than as expressly set forth herein, including those provisions that this Agreement expressly provides will survive such termination and subject to Section 14.3.8 (Sublicense Survival), all rights and licenses granted from one Party to the other hereunder will immediately terminate with respect to the Terminated Products in the Terminated Countries; *provided* that such licenses will continue as necessary for the Parties to complete the orderly wind-down of their activities under this Agreement in accordance with Applicable Law and as otherwise required in accordance with Section 14.3.1 (Wind-Down).

14.3.3. **Termination of Payment Obligations**. All payment obligations with respect to the Terminated Products in the Terminated Countries hereunder will terminate, other than those that are accrued and unpaid as of the effective date of such termination. For any payment obligations that are accrued and unpaid as of the effective date of termination, an invoice must be provided no later than [***] after the effective date of termination.

14.3.4. **Sell-Off Right**. For a period not to exceed [***] following the effective date of termination, Ionis will have the right to sell or otherwise dispose of the Terminated Products in the Terminated Countries on hand at the time of such termination or in the process of Manufacturing; *provided* that any revenue obtained from such disposal will be treated as Net Sales and the provisions of Article 9 (Consideration; Financial Terms) will apply to such Net Sales and, if such sales result in the achievement of any Ionis Product Sales Milestone Event, then the applicable Ionis Product Sales Milestone Payment will be payable.

14.3.5. **Assignment of Regulatory Submissions**. Except with respect to any termination by Ionis under Section 14.2.2(a) (Ionis' Right to Terminate), Ionis will, as promptly as practicable, transfer to Metagenomi possession and ownership of all Regulatory Approvals solely relating to the Exploitation of any Terminated Product in the Terminated Countries.

14.3.6. Reversion for Terminated Products other than Combination Products.

(a) **Reversion License Grant**. Upon Metagenomi's written request no later than 30 days following the effective date of termination and agreement by the Parties of the applicable royalty rate pursuant to Section 14.3.6(c) (Reversion Royalties), Ionis will grant and agrees to grant to Metagenomi, an exclusive, royalty-bearing (solely as provided in Section 14.3.6(c) (Reversion Royalties)), right and license, with the right to grant sublicenses through multiple tiers, under Patent Rights and Know-How Controlled by Ionis or its Affiliates to the extent such Patent Rights or Know-How are actually being used on the date of such termination by the Parties in the Development, Commercialization, or other Exploitation of the Terminated Products in the Terminated Countries as such Terminated Products exist as of the effective date of termination, solely to Exploit such Terminated Products in the Terminated Countries; *provided* that, if any such Terminated Products are Combination Products, then such license will not include any license or other rights with respect to any Other Product that is Covered by Patent Rights Controlled by Ionis or any of its Affiliates and Metagenomi will not obtain a license to any such Other Product other than pursuant to Section 14.3.7 (Reversion for Certain Combination Products) (such license grant, the "**Reversion License**").

(b) **Third Party Reversion IP**. With respect to any Patent Rights or Know-How that are the subject of the Reversion License that are in-licensed by Ionis from Third Parties, Ionis will notify Metagenomi of such Patent Rights or Know-How that are sublicensable to Metagenomi under the Reversion License (which notice will describe the terms and conditions of any Third Party agreements that are applicable to the grant to Metagenomi of the Reversion Licenses under such Patent Rights or Know-How (any such agreement, a "**Reversion IP In-License Agreement**"), including applicable payment terms). If Metagenomi elects to receive a sublicense under any Reversion IP In-License Agreement, then Metagenomi will notify Ionis in writing and Metagenomi will be responsible for (i) making all payments (including royalties, milestones, and other amounts) that are payable by Ionis to the Third Parties under each Reversion IP In-License Agreement with respect to and allocable to the Patent Rights and Know-How that are the subject of the Reversion License and arising out of the Exploitation of the Terminated Products in the Terminated Countries by making such payments directly to Ionis and, in each instance, Metagenomi will make the requisite payments to Ionis and provide the necessary reporting information to Ionis in sufficient time to enable Ionis to comply with its obligations under each Reversion IP In-License Agreement, and (ii) complying with any other obligations included in each Reversion IP In-License Agreement that are applicable to the grant to Metagenomi of the Reversion License under the applicable Patent Rights or Know-How (*provided* that Ionis has notified Metagenomi of such obligations), and the granting by Metagenomi of a sublicense under the Reversion Licenses will not relieve Metagenomi of its obligations under subclauses (i) and (ii).

(c) **Reversion Royalties**. The licenses granted to Metagenomi in Section 14.3.6(a) (Reversion License Grant) will be royalty-bearing, and Metagenomi will pay Ionis, on a Calendar Quarter basis, the royalty rates that are agreed to by the Parties at the time of Metagenomi's written request delivered pursuant to Section 14.3.6(a) (Reversion License Grant). With respect to the royalty rates to be agreed to by the Parties pursuant to this Section 14.3.6(c) (Reversion Royalties), the Parties will

take into account, among other things, (i) [***], (ii) [***], (iii) [***], and (iv) [***], and if the Parties have not reached agreement on such financial terms within [***] after such effective date of termination, then either Party may refer such matter for resolution pursuant to Section 15.1.3 (Expedited Dispute Resolution).

14.3.7. **Reversion for Certain Combination Products**. If (a) any of the Terminated Products are Combination Products that are required, by the approved labeling for such Terminated Product, to be promoted as a Combination Product and the Other Product for such Terminated Product is exclusively Controlled by Ionis, such that Metagenomi is not able to otherwise acquire such Other Product, and (b) there is no approved label regarding the promotion of the Terminated Product that is not a Combination Product (any such Terminated Product meeting the requirements of (a) and (b), a "**Terminated Combination Products**"), then upon Metagenomi's written request no later than [***] following the effective date of termination for such Terminated Combination Products, the Parties will enter into good faith negotiations for up to [***] regarding the grant of a non-exclusive, royalty-bearing right and license, with the right to grant sublicenses through multiple tiers, under Patent Rights and Know-How Controlled by Ionis or its Affiliates to the extent such Patent Rights or Know-How are actually being used on the date of such termination by the Parties in the Development, Commercialization, or other Exploitation of the Terminated Combination Products in the Terminated Countries as such Terminated Combination Products exist as of the effective date of termination, solely to Exploit such Terminated Combination Products in the Terminated Countries.

14.3.8. **Sublicense Survival**. Any sublicense granted hereunder by Ionis will, at the Sublicensee's option, survive such termination on the condition that the relevant Sublicensee is not in material breach of any of its obligations under such sublicense. In order to effect this provision, at the request of the Sublicensee, Metagenomi will enter into a direct license with the Sublicensee on terms that are substantially the same terms as the applicable terms of this Agreement; *provided* that Metagenomi will not be required to undertake obligations in addition to those required by this Agreement, and Metagenomi's rights under such direct license will be consistent with its rights under this Agreement, taking into account the scope of the license granted under such direct license.

14.4. **Confidential Information**. Upon the expiration or termination of this Agreement with respect to a Terminated Product in a Terminated Country, the Receiving Party will return (or, as directed by the Disclosing Party, destroy) all Confidential Information of the Disclosing Party related to such Terminated Product in such Terminated Country to the Disclosing Party that is in the Receiving Party's possession or control (other than any Confidential Information required to continue to exercise a Party's rights that survive such expiration or termination of this Agreement); *provided*, *however*, copies may be retained and stored solely for the purpose of determining a Party's obligations under this Agreement, subject to the non-disclosure and non-use obligation under Article 11 (Confidentiality). In addition, the Receiving Party will not be required to return or destroy Confidential Information contained in any computer system back-up records made in the ordinary course of business.

14.5. **Surviving Provisions**. Subject to the other terms and conditions regarding the termination and survival of obligations under this Agreement in the event of expiration or termination of this Agreement, upon expiration or termination of this Agreement, all provisions of this Agreement will cease to have any effect, except that the following provisions will survive any such expiration or termination for any reason for the period of time specified therein, or if not specified, then they will survive indefinitely: Section 2.5.1 (Reimbursement by Ionis) (solely with respect to obligations

accrued, but not yet paid, as of the effective date of termination of this Agreement); Section 3.1.3 (Unblocking License); Section 3.2.2 (Unblocking License); Section 3.5 (No Implied Licenses); Section 9.4 (Ionis Product Milestone Payments), Section 9.6 (Ionis Product Royalty Payments), Section 9.9 (Payment Obligations Under Certain In-License Agreements), and Section 9.10 (Metagenomi Product Economics) (in each case, solely with respect to obligations accrued, but not yet paid, as of the effective date of expiration or termination of this Agreement); Section 9.11 (Other Payments); Section 9.12 (Right to Offset); Section 9.13 (Records and Audits) (solely for [***] after termination or expiration of this Agreement); Section 9.14 (Currency of Payment; Non-Refundable Payments) through Section 9.17 (Withholding Taxes); Section 10.1.1 (Background Intellectual Property); Section 10.1.2 (By Inventorship); Section 10.2 (Patent Prosecution) (solely with respect to Joint Collaboration Patent Rights); Section 10.3 (Patent Enforcement) (solely with respect to Joint Collaboration Patent Rights); Section 11.1 (Confidential Information) through Section 11.4 (Publication Announcements and Subsequent Disclosures); Section 12.6 (Warranty Disclaimer); Section 13.1 (Indemnification of Metagenomi by Ionis) through Section 13.5 (Limited Liability); Section 13.6 (Insurance Obligations) (solely for [***] after expiration or termination of this Agreement); Section 14.1 (Term) (solely in the event of expiration and with respect to the last two sentences); Section 14.3 (Effects of Termination); Section 14.4 (Confidential Information); this Section 14.5 (Surviving Provisions); Article 15 (Miscellaneous); and Appendix 1 (Definitions) (as applicable). Termination or expiration of this Agreement (either in its entirety or with respect to one or more Licensed Products) will not relieve either Party of any liability that accrued hereunder prior to the effective date of such termination or expiration, preclude either Party from pursuing all rights and remedies it may have hereunder or at law or in equity with respect to any breach of this Agreement nor prejudice any rights that will have accrued to the benefit of any Party prior to such termination or expiration. The remedies provided in this Article 14 (Term and Termination) are not exclusive of any other remedies a Party may have in law or equity.

Article 15
Miscellaneous

15.1. Dispute Resolution.

15.1.1. **Escalation**. In the event of any dispute, claim, controversy, or cause of action asserted by a Party against the other Party or by the Metagenomi Indemnitees against Ionis or by the Ionis Indemnitees against Metagenomi arising out of or related to this Agreement or performance of this Agreement (other than matters within the purview of the JSC, which will be resolved as set forth in Section 4.6 (Decision-Making)) (a "**Claim**"), including any alleged breach of this Agreement or claim for indemnification pursuant to Article 13 (Indemnification; Limitation Of Liability; Insurance), such Party may, by written notice to the other Party, refer such matter to the Parties' respective officers designated below for attempted resolution (each, an "**Executive Officer**"):

For Ionis:	Chief Executive Officer (or such other senior executive designated by Ionis for such purpose)
For Metagenomi:	Chief Executive Officer (or such other senior executive designated by Metagenomi for such purpose)

15.1.2. **Arbitration**. Except as otherwise expressly set forth in this Agreement, if such Executive Officers do not resolve the dispute within [***] after receipt of such request, then, either Party may at any time after such [***] period submit such Claim to be finally settled by arbitration administered in accordance with the procedural rules of the American Arbitration Association (the "**AAA**") in effect at the time of submission, as modified by

this Section 15.1.2 (Arbitration) (the "**Arbitration**"). The Arbitration will be governed by the Applicable Law of the State of New York. The Arbitration will be heard and determined by three arbitrators who are retired judges or attorneys with at least 20 years of relevant experience, each of whom will be impartial and independent and will not have worked for or on behalf of either Party for at least [***]. Each Party will appoint one arbitrator and the third arbitrator will be selected by the two Party-appointed arbitrators, or, failing agreement within [***] following appointment of the second arbitrator, by the AAA. Such Arbitration will take place in New York, NY. The Arbitration award so given will, absent an appealable error under applicable AAA procedural rules, be a final and binding determination of the Claim, will be fully enforceable in any court of competent jurisdiction, and will not include any damages expressly prohibited by Section 13.5 (Limited Liability). Ionis will pay the fees, costs, and expenses for the arbitrator it chooses, Metagenomi will pay the fees, costs, and expenses for the arbitrator it chooses, and the Parties will share payment of the fees, costs and expenses for the third arbitrator. Except in a proceeding to enforce the results of the Arbitration or as otherwise required by Applicable Law or securities exchange, neither Party nor any arbitrator may disclose the existence, content, or results of any Arbitration hereunder without the prior written consent of both Parties. The Parties will instruct the arbitrators to complete the Arbitration within [***] after selection of the first arbitrator by a Party and each Party will use reasonable efforts to complete such arbitration proceedings within such time period.

15.1.3. **Expedited Dispute Resolution**. If the Executive Officers fail to reach agreement on any Expedited Dispute within [***] of submission of such Expedited Dispute to the Executive Officers, then either Party may notify the other Party of its intent to invoke dispute resolution under this Section 15.1.3 (Expedited Dispute Resolution) and such Expedited Dispute will be resolved by binding arbitration in accordance with this Section 15.1.3 (Expedited Dispute Resolution) except that the procedures for the conduct of such arbitration will be modified as follows:

(a) The arbitration will be conducted by a single neutral arbitrator selected by the Parties or, failing agreement by the Parties, by the AAA in accordance with the procedural rules of the AAA. Such arbitrator will be a retired judge or attorney with at least 20 years of relevant experience, who will be impartial and independent and will not have worked for or on behalf of either Party for at least [***]. The arbitrator will have the authority to engage one or more Third Party experts who are expert in the subject matter of the dispute to advise the arbitrator in rendering his or her decision (each, a "**Third Party Expert**"), and the costs of such Third Party Expert(s) will be included in the costs of the arbitration. The arbitrator will seek to obtain the mutual agreement of the Parties regarding such Third Party Expert(s), but absent such agreement, such Third Party Expert(s) will be selected by the arbitrator. Each Third Party Expert will be a disinterested individual who is not affiliated with either Party or its Affiliates or a Sublicensee and who has expertise and experience with respect to the subject matter of the Expedited Dispute, as determined by the arbitrator. Neither the Third Party Expert nor any of the Third Party Expert's former employers will be or have been at any time an Affiliate, employee, officer or director of, or a consultant for, either Party or any of its Affiliates or a Sublicensee.

(b) Within [***] of appointment of the arbitrator (and selection of the Third Party Expert(s)) in accordance with this Section 15.1.3 (Expedited Dispute Resolution), the Parties will submit their written positions regarding the Expedited Dispute to the other Party and the arbitrator. Each Party may submit a revised written position to the arbitrator within [***] of receiving the other Party's written position. If so requested by the arbitrator, each Party will make oral or other written submissions to the arbitrator in accordance with procedures to be established by the arbitrator; *provided* that the other Party will have the right to be present during any oral submissions.

(c) The arbitrator will render a decision in writing within [***] (or such other time period as the Parties may agree) after receipt of the last Party's written position, which decision will be in accordance with the applicable provisions of this Agreement, and such decision will be conclusive and binding on the Parties.

(d) Notwithstanding anything to the contrary herein, the arbitration under this Section 15.1.3 (Expedited Dispute Resolution) will be conducted as a "baseball arbitration" type proceeding. The arbitrator will select one of the Party's position as his or her decision, based on what is most reasonable and equitable to each of the Parties under the circumstances and in light of the terms set forth in this Agreement, and will not have the authority to render any substantive decision other than to so select one Party's position as initially submitted, or as revised in accordance with the foregoing, as applicable. The arbitrator may fashion such detailed procedures as the arbitrator considers appropriate to implement this intent.

(e) The Parties will instruct the arbitrator to complete all arbitration proceedings within [***] after selection of the arbitrator and each Party will use reasonable efforts to complete such arbitration proceedings within such time period.

15.1.4. **Tolling**. The Parties agree that all applicable statutes of limitation and time-based defenses (such as estoppel and laches), as well as all time periods in which a Party must exercise rights or perform obligation hereunder, will be tolled once the dispute resolution procedures set forth in this Section 15.1 (Dispute Resolution) have been initiated and for so long as they are pending, and the Parties will cooperate in taking all actions reasonably necessary to achieve such a result. In addition, during the pendency of any Claim under this Agreement initiated before the end of any applicable cure period, including under Section 14.2.2 (Termination for Material Breach), (a) this Agreement will remain in full force and effect, (b) the provisions of this Agreement relating to termination for material breach with respect to such Claim will not be effective, and (c) neither Party will issue a notice of termination pursuant to this Agreement based on the subject matter of the arbitration, until the arbitral tribunal has confirmed the material breach and the existence of the facts claimed by a Party to be the basis for the asserted material breach; *provided* that if such breach can be cured by (i) the payment of money, the defaulting Party will have an additional [***] within its receipt of the arbitral tribunal's decision to pay such amount (or such later date if specified in the arbitral tribunal's decision) or (ii) the taking of specific remedial actions, the defaulting Party will have a reasonably necessary period to diligently undertake and complete such remedial actions within such reasonably necessary period or any specific timeframe established by such arbitral tribunal's decision before any such notice of termination can be issued. Further, with respect to any time periods that have run during the pendency of the Claim, the applicable Party will have a reasonable period of time or any specific timeframe established by such arbitral tribunal's decision to exercise any rights or perform any obligations affected by the running of such time periods.

15.2. **Designation of Affiliates.** Each Party may discharge any obligations and exercise any rights under this Agreement through delegation of its obligations or rights to any of its Affiliates; *provided* that the delegating Party will remain primarily responsible for such obligation. Each Party hereby guarantees the performance by its Affiliates of such Party's obligations under this Agreement, and will cause its Affiliates to comply with the provisions of this Agreement in connection with such performance. Any breach by a Party's Affiliate of any of such Party's obligations under this Agreement will be a breach by such Party, and the other Party may proceed directly against such Party without any obligation to first proceed against such Party's Affiliate.

15.3. **Patent Disputes.** Notwithstanding Section 15.1.2 (Arbitration), if a dispute arises between the Parties under this Agreement with respect to the inventorship, interpretation, scope, validity, enforceability, applicability or term of any Patent Right, then such dispute will not be resolved pursuant to Section 15.1.2 (Arbitration), but instead may be brought by either Party in the federal courts in the State of New York.

15.4. **Injunctive Relief.** Notwithstanding anything to the contrary set forth in this Agreement, the Parties each stipulate and agree that (a) the other Party's Confidential Information includes highly sensitive trade secret information, (b) a breach of Section 3.6 (Exclusivity) or Article 11 (Confidentiality), in each case, may cause irrevocable harm for which monetary damages would not provide a sufficient remedy, and (c) in such case of a breach of Section 3.6 (Exclusivity) or Article 11 (Confidentiality), the non-breaching Party will be entitled to equitable relief (including temporary or permanent restraining orders, specific performance or other injunctive relief) from any court of competent jurisdiction. In addition, and notwithstanding anything to the contrary set forth in this Agreement, in the event of any other actual or threatened breach hereunder, the aggrieved Party may seek equitable relief (including temporary or permanent restraining orders, specific performance or other injunctive relief) from any court of competent jurisdiction without first submitting to the dispute resolution procedures set forth in Section 15.1 (Dispute Resolution).

15.5. **Governing Law**. This Agreement will be governed by and construed in accordance with the laws of the State of New York without taking into consideration any choice of law principles that would lead to the application of the laws of another jurisdiction.

15.6. **Cumulative Remedies**. The rights and remedies of the Parties under this Agreement are cumulative and not exclusive and, accordingly, are in addition to and not in lieu of any other rights and remedies of the Parties at law or in equity.

15.7. **Notices.** Any notice or report required or permitted to be given or made under this Agreement by either Party to the other will be in writing and delivered to the other Party at its address indicated below or to such other address as the addressee will have theretofore furnished in writing to the addressor by hand, courier or by registered or certified airmail (postage prepaid), in writing, by registered or certified airmail (postage prepaid):

If to Ionis: Ionis Pharmaceuticals, Inc.
2855 Gazelle Court
Carlsbad, CA 92010
Attention: Chief Business Officer

Copy to (which copy will not constitute notice):

Attention: General Counsel

If to Metagenomi: Metagenomi, Inc.
1545 Park Avenue
Emeryville CA 94608
Attention: Brian C. Thomas

Copy to (which copy will not constitute notice):

Attention:
Copy to

All notices will be deemed effective: (a) if by courier, on the Business Day of delivery as evidenced by the courier's receipt (or if delivered or sent on a non-Business Day, then on the next Business Day); or (b) if sent by registered or certified airmail, on the Business Day of receipt as evidenced on the return receipt.

15.8. **Amendment; Waiver**. This Agreement (including all exhibits and attachments to this Agreement except as set forth in Section 2.2.3 (Amendments to the Drug Discovery Plans) or Section 2.3.2 (Amendments to the Exploratory Research Plan)), may be amended, modified, superseded, or cancelled only by a written agreement between the Parties, and any of the terms of this Agreement may be waived only by a written instrument executed by each Party or, in the case of waiver, by the Party or Parties waiving compliance. The delay or failure of either Party at any time or times to require performance of any provisions will in no manner affect the rights at a later time to enforce the same. No waiver by either Party of any condition or of the breach of any term contained in this Agreement, whether by conduct, or otherwise, in any one or more instances, will be deemed to be, or considered as, a further or continuing waiver of any such condition or of the breach of such term or any other term of this Agreement.

15.9. **Assignment and Successors**. Neither Party may assign or transfer this Agreement in whole or in part or the licenses granted under this Agreement without the other Party's prior written consent *unless* such assignment is to (a) a Third Party successor or purchaser of all or substantially all of the assets or businesses to which this Agreement relates whether pursuant to a sale of assets, merger, or other transaction, in which case the assigning Party will provide prior written notice to the other Party and need not obtain the other Party's consent or (b) an Affiliate of such Party, in which case the assigning Party will provide prior written notice to the other Party and need not obtain the other Party's consent; *provided* that, in either case, the assigning Party remains fully liable for the performance of its obligations hereunder by such assignee. Each Party will also have the right to sell, assign, and convey its rights to receive royalties from Net Sales of Licensed Product (with respect to Metagenomi) and Metagenomi Products (with respect to Ionis) and related rights to receive royalty reports and conduct audits of the other Party, its Affiliates and Sublicensees to Third Party purchasers of royalty interests. Any other assignment of this Agreement by a Party requires the prior written consent of the other Party. An assignment to an Affiliate will terminate, and all rights so assigned will revert to the assigning Party, if and when such Affiliate ceases to be an Affiliate of the assigning Party. For clarity, any assignment in violation of this Section 15.9 (Assignment and Successors) will be null, void, and of no legal effect. This Agreement will be binding upon and inure to the benefit of the Parties and their respective legal representatives, successors and permitted assigns.

15.10. Rights in Bankruptcy.

15.10.1. All rights and licenses now or hereafter granted by one Party to the other Party under or pursuant to this Agreement, including, for the avoidance of doubt, the licenses granted to Ionis pursuant to Section 3.1 (License Grant to Ionis), are, for all purposes of Section 365(n) of the U.S. Bankruptcy Code, licenses of rights to "intellectual property" as defined in the U.S. Bankruptcy Code. Upon the occurrence of any Insolvency Event with respect to a Party granting a license (the "**Licensing Party**"), the Licensing Party agrees that the other Party (the "**Licensee**"), as licensee of such rights under this Agreement, will retain and may fully exercise all of its rights and elections under the U.S. Bankruptcy Code. Without limiting the generality of the foregoing, the Parties intend and agree that any sale of a Licensing Party's assets under Section 363 of the U.S. Bankruptcy Code will be subject to Ionis' rights under Section 365(n), that the Licensee cannot be compelled to accept a money satisfaction of its interests in the intellectual property licensed pursuant to this Agreement, and that any such sale therefore may not be made to a purchaser "free and clear" of the Licensee's rights under this Agreement and Section 365(n) without the express, contemporaneous consent of the Licensee. The Licensing Party will, during the Term, create and maintain current copies or, if not amenable to copying, detailed descriptions or other appropriate embodiments, to the extent feasible, of all intellectual property licensed under this Agreement. Each Party acknowledges and agrees that "embodiments" of intellectual property within the meaning of Section 365(n) include laboratory notes and notebooks, cell lines, laboratory samples, product samples and inventory, research studies and data, all Regulatory Approvals (and all applications for Regulatory Approval) and rights of reference therein, marketing advertising and promotional materials, the Licensed Technology, and all information related to the Licensed Technology. If (a) a case under the U.S. Bankruptcy Code is commenced by or against a Licensing Party, (b) this Agreement is rejected as provided in the U.S. Bankruptcy Code, and (c) the Licensee elects to retain its rights hereunder as provided in Section 365(n) of the U.S. Bankruptcy Code, the Licensing Party (in any capacity, including debtor-in-possession) and its successors and assigns (including a trustee) will:

(a) provide the Licensee with all such intellectual property (including all embodiments thereof) held by the Licensing Party and such successors and assigns, or otherwise available to them, immediately upon Ionis' written request. Whenever the Licensee or any of its successors or assigns provides to Ionis any of the intellectual property licensed hereunder (or any embodiment thereof) pursuant to this Section 15.10.1, the Licensee will have the right to perform the Licensing Party's obligations hereunder with respect to such intellectual property, but neither such provision nor such performance by the Licensee will release the Licensing Party from liability resulting from rejection of the license or the failure to perform such obligations; and

(b) not interfere with the Licensee's rights under this Agreement, or any agreement supplemental hereto, to such intellectual property (including such embodiments), including any right to obtain such intellectual property (or such embodiments) from another entity, to the extent provided in Section 365(n) of the U.S. Bankruptcy Code.

15.10.2. All rights, powers and remedies of the Licensee provided herein are in addition to and not in substitution for any other rights, powers, and remedies now or hereafter existing at law or in equity (including the U.S. Bankruptcy Code) in the event of the commencement of a case under the U.S. Bankruptcy Code with respect to the Licensing Party. The Parties intend the following rights to extend to the maximum extent permitted by Applicable Law, and to be enforceable under U.S. Bankruptcy Code Section 365(n):

(a) the right of access to any intellectual property rights (including all embodiments thereof) of the Licensing Party, or any Third Party with whom the Licensing Party contracts to perform an obligation of the Licensing Party under this Agreement, and, in the case of any such Third Party, which is necessary for the Manufacture, use, sale, import, or export of Licensed Systems and Licensed Products; and

(b) the right to contract directly with any Third Party to complete the contracted work.

15.11. **Force Majeure**. Neither Party will be held liable or responsible to the other Party nor be deemed to be in default under, or in breach of any provision of, this Agreement for failure or delay in fulfilling or performing any obligation (other than a payment obligation) of this Agreement to the extent such failure or delay is due to force majeure. For purposes of this Agreement, "**Force Majeure**" is defined as any cause beyond the reasonable control of the affected Party and without the fault or negligence of such Party, which may include acts of God; material changes in Applicable Law; war; civil commotion; destruction of production facilities or materials by fire, flood, earthquake, explosion or storm; labor disturbances; epidemic; pandemic; quarantine; and failure of public utilities or common carriers. The Parties agree the effects of the COVID-19 pandemic that is ongoing as of the Effective Date (including related government orders) may be invoked as a Force Majeure for the purposes of this Agreement, even though the pandemic is ongoing, only to the extent those effects are not reasonably foreseeable by the Parties as of the Effective Date. Notwithstanding the foregoing, a Party will not be excused from making payments owed hereunder due to any Force Majeure circumstances affecting such Party. In the case of a Force Majeure, the Party affected by such Force Majeure will immediately notify the other Party of such inability and of the period for which such inability is expected to continue. The Party giving such notice will thereupon be excused from such of its obligations under this Agreement as it is thereby disabled from performing for so long as it is so disabled for up to a maximum of [***], after which time the Parties will promptly meet to discuss in good faith how to best proceed in a manner that maintains and abides by the Agreement. To the extent possible, the Party affected by such Force Majeure will use reasonable efforts to minimize the duration of any Force Majeure.

15.12. **Interpretation**. The Parties acknowledge and agree that: (a) each Party and its counsel reviewed and negotiated the terms and provisions of this Agreement and have contributed to its revision; (b) the rule of construction to the effect that any ambiguities are resolved against the drafting Party will not be employed in the interpretation of this Agreement; and (c) the terms and provisions of this Agreement will be construed fairly as to each Party and not in a favor of or against either Party, regardless of which Party was generally responsible for the preparation of this Agreement. In addition, except as otherwise explicitly specified to the contrary, (i) references to a section, schedule or exhibit means a section of, or schedule or exhibit to this Agreement, unless another agreement is specified, (ii) the word "including" (in its various forms) means "including without limitation," (iii) the words "shall" and "will" have the same meaning, (iv) references to a particular statute or regulation include all rules and regulations thereunder and any predecessor or successor statute, rules or regulations, in each case as amended or otherwise modified from time-to-time, (v) words in the singular will be held to include the plural and vice versa, and words of one gender will be held to include all genders as the context requires, (vi) references to a particular Person include such Person's successors and assigns to the extent not prohibited by this Agreement, (vii) references to "days" will mean calendar days, unless otherwise specified, (viii) the word "or" will not be exclusive, unless the context otherwise requires, (ix) the titles and headings contained in this Agreement are for reference purposes only and will not affect in any way the meaning or interpretation of this Agreement, (x) the terms "hereof," "hereby," "hereto," and derivative or similar words refer to this entire Agreement, including any schedules or exhibits hereto, and (xi) unless otherwise specified, "$" is in reference to United States Dollars.

15.13. **Integration**. This Agreement, together with all exhibits and schedules attached hereto and each Co-Development and Co-Commercialization Agreement, any Development Supply Agreement, and any Commercial Supply Agreement, sets forth the entire agreement with respect to the subject matter hereof and thereof and supersedes all other agreements and understandings between the Parties with respect to such subject matter, including the Confidentiality Agreement.

15.14. **Severability**. Each Party hereby agrees that it does not intend to violate any public policy, statutory or common laws, rules, regulations, treaty, or decision of any government agency or executive body thereof of any country or community or association of countries. If one or more provisions of this Agreement be or become invalid, then the Parties will substitute, by written agreement, valid provisions for such invalid provisions, which valid provisions in their economic effect are sufficiently similar to the invalid provisions such that it can be reasonably assumed that the Parties would have entered into this Agreement with such valid provisions. If the Parties are unable to agree upon such alternative valid provision, then the invalidity of one or several provisions of this Agreement will not affect the validity of this Agreement as a whole, unless the invalid provisions are of such essential importance to this Agreement such that it is to be reasonably assumed that the Parties would not have entered into this Agreement without the invalid provisions.

15.15. **Further Assurances**. Each of Ionis and Metagenomi agrees to duly execute and deliver, or cause to be duly executed and delivered, such further instruments and do and cause to be done such further acts and things, including, the filing of such additional assignments, agreements, documents and instruments, as the other Party may at any time and from time-to-time reasonably request in connection with this Agreement or to carry out more effectively the provisions and purposes of, or to better assure and confirm unto such other Party its rights and remedies under, this Agreement.

15.16. **Counterparts**. This Agreement may be executed in counterparts, all of which taken together will be regarded as one and the same instrument. Counterparts may be delivered via electronic mail, including Adobe™ Portable Document Format (PDF) or any electronic signature complying with the U.S. Federal ESIGN Act of 2000, and any counterpart so delivered will be deemed to be original signatures, will be valid and binding upon the Parties, and, upon delivery, will constitute due execution of this Agreement.

15.17. **Relationship of the Parties**. In entering into this Agreement and performing their respective duties and obligations with respect to the Agreement, the Parties are acting, and intend to be treated, as independent entities, and the activities and resources of each Party will be managed by such Party, acting independently and in its individual capacity. The relationship between the Parties is that of independent contractors, and neither Party will have the power to bind or obligate the other Party in any manner. Nothing contained in this Agreement will be construed or implied to create an agency, partnership, joint venture, fiduciary, or employer-employee relationship between the Parties. Except as otherwise expressly provided in this Agreement, neither Party may make any representation, warranty or commitment, whether express or implied, on behalf of or incur any charges or expenses for or in the name of the other Party. Neither Party will hold itself out, or take any action, contrary to the terms of this Section 15.17 (Relationship of the Parties), and neither Party will become liable due to any such representation, warranty, commitment, act or omission made by the other Party contrary to the provisions of this Section 15.17 (Relationship of the Parties). Subject to the terms of this Agreement, the activities and resources of each Party will be managed by such Party, acting independently and in its individual capacity.

[*Remainder of page intentionally left blank.*]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives.

METAGENOMI, INC.

By: /s/ Brian Thomas
Name: Brian Thomas
Title: Chief Executive Officer

IONIS PHARMACEUTICALS, INC.

By: /s/ Brett Monia
Name: Brett Monia
Title: Chief Executive Officer

Appendix 1

Definitions

For purposes of this Agreement, whether used in the singular or plural, the following terms will have the meanings set forth below:

1.1. "**AAA**" has the meaning set forth in Section 15.1.2 (Arbitration).

1.2. "**Accounting Standards**" means United States Generally Accepted Accounting Principles, as generally and consistently applied throughout a Party's organization.

1.3. "**Acquiring Party**" has the meaning set forth in Section 9.8.1 (Proposed New In-License Agreement).

1.4. "**Acquisition Transaction**" has the meaning set forth in Section 3.6.2 (Acquisition of Distracting Product).

1.5. "**Additional Drug Discovery Plan**" has the meaning set forth in Section 2.2.2 (Additional Drug Discovery Plans).

1.6. "**Additional Wave 1 Target**" has the meaning set forth in Section 2.1.1(c) (Additional Wave 1 Target Selection).

1.7. "**Additional Wave 1 Target Notice**" has the meaning set forth in Section 2.1.1(c) (Additional Wave 1 Target Selection).

1.8. "**Additional Wave 1 Target Selection Period**" has the meaning set forth in Section 2.1.1(c) (Additional Wave 1 Target Selection).

1.9. "**Affiliate**" means, as of any point in time and for so long as such relationship continues to exist with respect to any Person, any other Person that controls, is controlled by, or is under common control with such Person. For purposes of this Section 1.9 (Affiliate), the term "control" (including, with correlative meaning, the terms "controlled by" and "under common control with"), means the possession, directly or indirectly, of more than 50% of the voting stock or other ownership interest of such Person, or the possession, directly or indirectly, of the power to direct or cause the direction of the affairs or management and policies of such Person or the power to elect or appoint more than 50% of the members of the governing body of such Person. The Parties acknowledge that in the case of certain entities organized under the laws of certain countries outside the United States, the maximum percentage ownership permitted by Applicable Law for a foreign investor may be less than 50%, and that in such case such lower percentage will be substituted in the preceding sentence; *provided* that such foreign investor has the power to direct the management and policies of such entity.

1.10. "**Agreement**" has the meaning set forth in the Preamble.

1.11. "**Alliance Manager**" has the meaning set forth in Section 4.4 (Alliance Managers).

1.12. "**[***]**" means any amount that is less than [***], on a year to date basis, set forth in the Exploratory Research Budget or a Drug Discovery Budget (as applicable) for such Calendar Year; *provided* that such amount is not incurred as a result of any breach by Metagenomi of this Agreement.

1.13. "**Annual Net Sales**" means, with respect to an Ionis Product, the aggregate Net Sales of such Ionis Product sold by Ionis, its Affiliates, or Sublicensees in the Field in the Territory during a Calendar Year and only during the Royalty Term for such Ionis Product in the applicable country.

1.14. "**Applicable Law**" means applicable (with respect to the particular activity, task, or obligation under this Agreement to which such term applies) laws, statutes, rules, regulations, and other pronouncements having the effect of law of any Governmental Authority that may be in effect from time to time, including for clarity any applicable rules, regulations, guidelines, or other requirements of any Regulatory Authority that may be in effect from time to time.

1.15. "**Arbitration**" has the meaning set forth in Section 15.1.2 (Arbitration).

1.16. "**Audited Party**" has the meaning set forth in Section 9.13.1 (Books and Records).

1.17. "**Auditing Party**" has the meaning set forth in Section 9.13.1 (Books and Records).

1.18. "**Auditor**" has the meaning set forth in Section 9.13.1 (Books and Records).

1.19. "**Available**" means, with respect to a Proposed Target, that such Proposed Target is not an Encumbered Target.

1.20. "**[***]**" has the meaning set forth in Section 2.2.4(a) (New [***]).

1.21. "**Biosimilar Product**" means, with respect to a particular Licensed Product in a particular country, a product on the market in such country commercialized by any Third Party that is not a Sublicensee and that did not purchase such product in a chain of distribution that included any of Ionis or its Affiliates or Sublicensees, that (a) is approved by the applicable Regulatory Authority, under any then-existing laws and regulations in the applicable country pertaining to approval of generic or biosimilar biologic products, as a "generic" or "biosimilar" version of such Licensed Product, which approval uses such Licensed Product as a reference product and relies on or references information in the MAA for such Licensed Product, or (b) is otherwise recognized by the applicable Regulatory Authority as a biosimilar or interchangeable product to such Licensed Product.

1.22. "**BLA**" means a biologics license application that is submitted to the FDA for a Licensed Product, pursuant to 21 C.F.R. § 601.2.

1.23. "**Business Day**" means any day, other than Saturday, Sunday, or any day on which banking institutions in California are authorized or required by Applicable Law to remain closed.

1.24. "**C.F.R.**" means the U.S. Code of Federal Regulations.

1.25. "**Calendar Quarter**" means each period of three consecutive calendar months ending on March 30, June 30, September 30, or December 31, except that the first Calendar Quarter of the Term will commence on the Effective Date, and the last Calendar Quarter of the Term will end on the effective date of the termination or expiration of this Agreement.

1.26. "**Calendar Year**" means each period of 12 consecutive calendar months commencing on January 1 and ending on December 31, except that the first Calendar Year of the Term will commence on the Effective Date, and the last Calendar Year of the Term will end on the effective date of the termination or expiration of this Agreement.

1.27. "**Change of Control**" means, with respect to a Party, (a) a merger, reorganization, combination, or consolidation of such Party with a Third Party that results in the holders of beneficial ownership of the voting securities or other voting interests of such Party (or, if applicable, the ultimate parent of such Party) immediately prior to such merger, reorganization, combination, or consolidation ceasing to hold beneficial ownership of more than 50% of the combined voting power of the surviving entity or the ultimate parent of the surviving entity immediately after such merger, reorganization, combination or consolidation, (b) a transaction or series of related transactions in which a Third Party, together with its Affiliates, becomes the beneficial owner of 50% or more of the combined voting power of the outstanding securities or other voting interest of such Party, (c) the sale, lease, exchange, contribution, or other transfer (in one transaction or a series of related transactions) to a Third Party of all or substantially all of such Party's assets, or (d) a liquidation or dissolution of such Party or any direct or indirect parent of such Party. Notwithstanding the foregoing, an initial public offering, a *bona fide* venture capital financing, a SPAC transaction, or reverse-merger transaction, in each case, of Metagenomi, will not be considered a Change of Control of Metagenomi.

1.28. "**Claim**" has the meaning set forth in Section 15.1.1 (Escalation).

1.29. "**Clinical Trial**" means any clinical trial in humans that is designed to generate data in support or maintenance of an IND or MAA.

1.30. "**CMO**" means a contract manufacturing organization.

1.31. "[***]" means [***].

1.32. "**Co-Co Option**" has the meaning set forth in Section 5.1.1 (Option Grant).

1.33. "**Co-Co Option Notice**" has the meaning set forth in Section 5.1.2 (Option Period).

1.34. "**Co-Co Option Period**" has the meaning set forth in Section 5.1.2 (Option Period).

1.35. "**Co-Co Products**" means any Licensed Products that are the subject of a Co-Co Program.

1.36. "**Co-Co Program**" means each Drug Discovery Program for which Metagenomi exercises a Co-Co Option in accordance with Section 5.1 (Co-Development and Co-Commercialization Options).

1.37. "**Co-Development and Co-Commercialization Agreement**" has the meaning set forth in Section 5.2 (Development and Commercialization of the Co-Co Products; Opt-Down Right).

1.38. "**Collaboration Activities**" has the meaning set forth in Section 2.4 (Conduct of Collaboration Activities).

1.39. "**Collaboration Program**" means (a) the Exploratory Research Program and (b) each Drug Discovery Program.

1.40. "**Collaboration Program Plans**" has the meaning set forth in Section 2.4 (Conduct of Collaboration Activities).

1.41. "**Collaboration Program Report**" has the meaning set forth in Section 2.6.2 (Collaboration Program Reports).

1.42. "**Collaboration Target**" means, as applicable, any of (a) [***], (b) the Second Wave 1 Target, and (c) the Proposed Targets that Ionis designates in accordance with Section 2.1.4(c) (Effects if a Proposed Target is Available).

1.43. "**Collaboration Term**" means (a) with respect to a Drug Discovery Program, the applicable Drug Discovery Term for such Drug Discovery Program and (b) with respect to the Exploratory Research Program, the Exploratory Research Term.

1.44. "**Combination Product**" has the meaning set forth in Section 1.190 (Net Sales).

1.45. "**Commercial Supply Agreement**" has the meaning set forth in Section 8.1.1 (Metagenomi Supply Term).

1.46. "**Commercialization**" or "**Commercialize**" means with respect to any product, any and all activities directed to the marketing, promotion, patient services, distribution, pricing, reimbursement, pharmacovigilance, import, export, offering for sale, and sale of such product, including seeking and maintaining any required Pricing Approval, but excluding any activities directed to Manufacturing, Development, or Medical Affairs. "**Commercialize**," "**Commercializing**," and "**Commercialized**" will be construed accordingly.

1.47. "**Commercially Reasonable Efforts**" means with respect to the efforts to be expended by any Person with respect to any objective, reasonable, diligent, and good faith efforts to accomplish such objective. With respect to Ionis' obligations set forth in Section 6.1.3 (Development Diligence for the Ionis Products) and Section 6.2.2 (Commercialization Diligence for the Ionis Products), "**Commercially Reasonable Efforts**" means that level, caliber, and quality of efforts and resources reasonably and normally used by biopharmaceutical companies of similar size to Ionis as to a potential or actual product with similar commercial potential and at a similar stage of product life, taking into account with respect to each applicable Licensed System or Licensed Product, (a) issues of safety, efficacy, and product profile, (b) likelihood of receiving Regulatory Approval (including, for clarity, Pricing Approval) of the applicable Licensed Product, (c) regulatory structure involved, (d) feedback provided by any Regulatory Authority, including relating to proposed or approved labeling, (e) competitiveness in the marketplace and anticipated or actual profitability of the product (including based on the Pricing Approval and the cost of goods thereof, where applicable), (f) proprietary position, and (g) other scientific, technical, and business factors deemed relevant by Ionis. "**Commercially Reasonable Efforts**" will be determined on a country-by-country basis in the relevant countries and [***].

1.48. "**Common Ownership Legislation**" means the legislation on conditions for patentability and novelty, as codified at 35 U.S.C. § 102(c) (Common Ownership Under Joint Research Agreements).

1.49. "**Competitive Infringement**" has the meaning set forth in Section 10.3.1 (Notification).

1.50. "**Confidential Information**" means (a) the existence and terms of this Agreement, and (b) with respect to each Party, Know-How, materials, and other proprietary information including data and all other scientific, pre-clinical, clinical, regulatory, Manufacturing, marketing, financial, and commercial information or data that is disclosed, made available to, or provided by or on behalf of such Party to the other Party or to any of the Receiving Party's employees, consultants, Affiliates, or Sublicensees, whether or not specifically marked or designated by the Disclosing Party as confidential; *provided* that, notwithstanding the foregoing, Product-Specific Know-How will be deemed the Confidential Information of Ionis during the Term and thereafter following any expiration, but not termination, of this Agreement.

1.51. "**Confidentiality Agreement**" has the meaning set forth in Section 11.1.2 (Confidential Information of Each Party).

1.52. "**Control**" or "**Controlled**" means the possession by a Party (whether by ownership, license, or otherwise other than pursuant to this Agreement) of, (a) with respect to any materials or other tangible Know-How, the legal authority or right to physical possession of such materials or tangible Know-How, with the right to provide such materials or tangible Know-How to the other Party on the terms set forth herein, (b) with respect to Patent Rights, Regulatory Approvals, Regulatory Submissions, intangible Know-How, or other intellectual property, the legal authority or right to grant a license, sublicense, access, or right to use (as applicable) to the other Party under such Patent Rights, Regulatory Approvals, Regulatory Submissions, intangible Know-How, or other intellectual property on the terms set forth herein, in each case ((a) and (b)), without breaching or otherwise violating the terms of any arrangement or agreement with a Third Party in existence as of the time such Party or its Affiliates would first be required hereunder to grant the other Party such access, right to use, license, or sublicense, and (c) with respect to any product, the legal authority or right to grant an exclusive license or sublicense under Patent Rights that Cover such product or Know-How that relates to such product; *provided* that (i) any Know-How or Patent Rights in-licensed or acquired by Metagenomi or its Affiliates under an Existing Potential Metagenomi In-License Agreement or a Proposed New Metagenomi In-License Agreement will not be deemed "Controlled" by Metagenomi unless and until such agreement becomes a Metagenomi In-License Agreement under Section 9.7.1 (Effective Date Licensed Technology; Existing Metagenomi In-License Agreements) or Section 9.8.2 (Acceptance of a Proposed New In-License Agreement) (and only for so long as it remains a New Metagenomi In-License Agreement hereunder) and (ii) any Know-How or Patent Rights in-licensed or acquired by Ionis or its Affiliates under an Existing Potential Ionis In-License Agreement or a Proposed New Ionis In-License Agreement will not be deemed "Controlled" by Ionis unless and until such agreement becomes an Ionis In-License Agreement under Section 9.7.2 (Existing Potential Ionis In-License Agreements) or Section 9.8.2 (Acceptance of a Proposed New In-License Agreement) (and only for so long as it remains an Ionis In-License Agreement hereunder). Notwithstanding the foregoing, a Party and its Affiliates will not be deemed to "**Control**" any of the foregoing (a) – (c) that are owned or controlled by a Third Party described in the definition of "Change of Control," or such Third Party's Affiliates (other than an Affiliate of such Party prior to the Change of Control), (x) prior to the closing of such Change of Control, except to the extent that any such Patent Rights or Know-How were developed by such Third Party prior to such Change of Control using or incorporating such Party's or its pre-existing Affiliate's Know-How or Patent Rights, or (y) after such Change of Control to the extent that such Patent Rights or Know-How are developed or conceived by such Third Party or its Affiliates (other than such Party) after such Change of Control without using or incorporating such Party's or its pre-existing Affiliate's Know-How or Patent Rights and are not developed or conceived by personnel who were employees or consultants of such Party or its pre-existing Affiliates.

1.53. "**Cost of Goods**" or "**COGS**" means, with respect to any Licensed Product or Licensed System supplied by Metagenomi to Ionis pursuant to Article 8 (Manufacturing): 100% of: (a) [***]; and (b) [***]. The Cost of Goods will exclude any amounts incurred due to gross negligence or willful misconduct of Metagenomi, its Affiliates, or any Third Party. All components of Cost of Goods will be allocated on a basis consistent with the Metagenomi's Accounting Standards and consistent with the cost accounting policy applied by Metagenomi to other products that it produces. For clarity, the Cost of Goods will not include any cost or expense already paid for by Ionis pursuant to this Agreement or any other agreement between the Parties or their Affiliates.

1.54. "**Cover**," "**Covers**," or "**Covered**" means, as to a compound or product and Patent Right, that, in the absence of a license granted under, or ownership of, such Patent Right, the making, using, keeping, selling, offering for sale, or importation of such compound or product would infringe such Patent Right or, as to a pending claim included in such Patent Right, the making, using, keeping, selling, offering for sale, or importation of such compound or product would infringe such Patent Right if such pending claim were to issue in an issued patent without modification.

1.55. "**Development**" or "**Develop**" means, with respect to any product, any and all internal and external research, development, pharmacovigilance activities, and regulatory activities regarding such product, including (a) research, process development, non-clinical testing, toxicology, non- clinical activities, IND-enabling studies, and Clinical Trials, and (b) preparation, submission, review, and development of data or information for the purpose of submission to a Regulatory Authority to obtain authorization to conduct Clinical Trials and to obtain, support, or maintain Regulatory Approval of such product, but excluding any activities directed to Manufacturing, Medical Affairs, or Commercialization. Development will include research, development, and regulatory activities for additional presentations or indications for a product after receipt of Regulatory Approval of such product, including Clinical Trials initiated following receipt of Regulatory Approval or any Clinical Trial to be conducted after receipt of Regulatory Approval that was mandated by the applicable Regulatory Authority as a condition of such Regulatory Approval with respect to an approved indication (such as post-marketing approval studies and observational studies, if required by any Regulatory Authority in any country in the Territory to support or maintain Regulatory Approval for a product in such country, including any phase IV studies). "**Develop**," "**Developing**," and "**Developed**" will be construed accordingly.

1.56. "**Development Candidate**" means a therapeutic agent that is selected by Ionis for further Development and Commercialization in accordance with its customary internal process and pursuant to Section 2.2.6 (Delivery of Development Candidate; Development Candidate Report).

1.57. "**Development Candidate Report**" has the meaning set forth in Section 2.2.6 (Delivery of Development Candidate; Development Candidate Report).

1.58. "**Development Cost Share Notice**" has the meaning set forth in Section 9.3 (Option Exercise Fee).

1.59. "**Development Supply Agreement**" has the meaning set forth in Section 8.1.1 (Metagenomi Supply Term).

1.60. "**Disclosing Party**" has the meaning set forth in Section 11.1.1 (General).

1.61. "**Distracted Party**" has the meaning set forth in Section 3.6.2 (Acquisition of Distracting Product).

1.62. "**Distracting Product**" has the meaning set forth in Section 3.6.2 (Acquisition of Distracting Product).

1.63. "[***]" means, with respect to a Distracting Product, [***].

1.64. "**Drug Discovery Activities**" has the meaning set forth in Section 2.2.1 (Initial Drug Discovery Plan).

1.65. "**Drug Discovery Budget**" has the meaning set forth in Section 2.2.1 (Initial Drug Discovery Plan).

1.66. "**Drug Discovery Plan**" has the meaning set forth in Section 2.2.1 (Initial Drug Discovery Plan).

1.67. "**Drug Discovery Program**" means, on a Collaboration Target-by-Collaboration Target basis, the program of Development undertaken for a Collaboration Target, as set forth in the applicable Drug Discovery Plan for such Collaboration Target.

1.68. "**Drug Discovery Term**" has the meaning set forth in Section 2.2.7 (Drug Discovery Term).

1.69. "**Effective Date**" has the meaning set forth in the Preamble.

1.70. "**EMA**" means the European Medicines Agency or any successor agency or authority thereto.

1.71. "[***]" has the meaning set forth in Section 3 ([***]) of the Exploratory Research Plan attached hereto as Schedule 2.3.1 (Exploratory Research Plan).

1.72. "**Encumbered Proposed Metagenomi Target**" has the meaning set forth in Section 2.7.3(a) (Encumbered Targets).

1.73. "**Encumbered Target**" has the meaning set forth in Section 2.1.4(a) (Encumbered Targets).

1.74. "**Encumbrance**" means any and all liens, encumbrances, charges, mortgages, security interests, hypothecations, easements, rights-of-way or encroachments of any nature whatsoever.

1.75. "**European Union**" or "**EU**" means (a) all countries or territories that are officially part of the European Union, as constituted from time to time, and (b) the United Kingdom.

1.76. "**Exclusivity Field**" means, with respect to a Drug Discovery Program, (a) [***] and (b) any [***].

1.77. "**Executive Officer**" has the meaning set forth in Section 15.1.1 (Escalation).

1.78. "**Existing Potential Ionis In-License Agreement**" has the meaning set forth in Section 9.7.2 (Existing Potential Ionis In-License Agreements).

1.79. "**Existing Potential Metagenomi In-License Agreement**" has the meaning set forth in Section 9.7.2 (Effective Date Licensed Technology; Existing Metagenomi In-License Agreements).

1.80. "**Expedited Dispute**" means any dispute (a) that a Party elects pursuant to Section 4.6.3(b) (Resolution by Baseball Arbitration) to refer to resolution pursuant to Section 15.1.3 (Expedited Dispute Resolution), (b) regarding the determination of any final definitive terms of any Co-Development and Co-Commercialization Agreement pursuant to Section 5.2 (Development and Commercialization of the Co-Co Products; Opt-Down Right), (c) regarding the royalty rate or royalty term for any reversion royalty pursuant to Section 14.3.6(c) (Reversion Royalties), or (d) regarding any other provision of this Agreement that the Parties agree to designate as an Expedited Dispute.

1.81. "**Exploit**" means, with respect to any product, to Develop, have Developed, make, have made, use, have used, perform Medical Affairs, have performed Medical Affairs, offer for sale, have offered for sale, sell, have sold, export, have exported, import, have imported, Manufacture, have Manufactured, Commercialize, have Commercialized, or otherwise exploit such product. "**Exploitation**" and "**Exploiting**" will be construed accordingly.

1.82. "**Exploratory Research Activities**" has the meaning set forth in Section 2.3.1 (Exploratory Research Plan).

1.83. "**Exploratory Research Budget**" has the meaning set forth in Section 2.3.1 (Exploratory Research Plan).

1.84. "**Exploratory Research Plan**" has the meaning set forth in Section 2.3.1 (Exploratory Research Plan).

1.85. "**Exploratory Research Program**" has the meaning set forth in Section 2.3.1 (Exploratory Research Plan).

1.86. "**Exploratory Research Term**" has the meaning set forth in Section 2.3.3 (Exploratory Research Term).

1.87. "**FDA**" means the United States Food and Drug Administration and any successor agency or authority thereto.

1.88. "**FD&C Act**" means the United States Food, Drug, and Cosmetic Act, as amended, and the rules and regulations promulgated thereunder, as may be in effect from time to time.

1.89. "**Field**" means, with respect to a given Drug Discovery Program, [***].

1.90. "**Firewall Procedures**" has the meaning set forth in Section 3.6.2 (Acquisition of Distracting Product).

1.91. "**First Commercial Sale**" means on a Licensed Product-by-Licensed Product and country-by-country basis, the first sale of a Licensed Product by Ionis, its Affiliate, or its Sublicensee to a Third Party resulting in a Net Sale in a particular country; *provided* that the following will not constitute a First Commercial Sale: (a) any sale of a Licensed Product to a Ionis Affiliate or Sublicensee; (b) any sale of a Licensed Product for use in Clinical Trials, pre-clinical studies, or other Development activities at below market price; (c) the disposal or transfer of a Licensed Product for a *bona fide* charitable purpose; or (d) compassionate use and "named patient sales."

1.92. "[***]" means, with respect to an Ionis Program and an Ionis Product Development Milestone Event, [***].

1.93. "**Force Majeure**" has the meaning set forth in Section 15.11 (Force Majeure).

1.94. "**FTE**" has the meaning set forth in Section 1.95 (FTE Rate).

1.95. "**FTE Rate**" means an annual rate of $[***] for the time of an employee for a full-time equivalent ("**FTE**") person year (consisting of a total of 1,800 hours per annum) carrying out research, scientific, or technical work under this Agreement, prorated on a daily basis. Without limiting the foregoing, the FTE Rate will be adjusted annually for each Calendar Year after the Calendar Year ending December 31, 2022 to be equal to the FTE Rate for the preceding Calendar Year [***]. The FTE Rate [***].

1.96. "**Gene Editing**" means [***].

1.97. "**Governmental Authority**" means any arbitrator, court, judicial, legislative, administrative or regulatory authority, commission, department, board, bureau, or body, or other government authority or instrumentality or any Person exercising executive, legislative, judicial, regulatory, or administrative functions of or pertaining to government, whether foreign or domestic, whether federal, state, provincial, municipal, or other.

1.98. "**Guide RNA**" means any single- or double-stranded polynucleotide (including any analogue, variant, or mimic thereof) used for genome sequence site-specific targeting of a Gene Editing protein.

1.99. "**Increased Cost Notice**" has the meaning set forth in Section 2.2.4(c) (Incremental Development Costs).

1.100. "**Incremental Development Costs**" has the meaning set forth in Section 2.2.4(c) (Incremental Development Costs).

1.101. "**IND**" means an investigational new drug application filed with the FDA with respect to a Licensed Product, or an equivalent application filed with the Regulatory Authority of a country in the Territory other than the U.S. (such as an application for a Clinical Trial authorization in the EU).

1.102. "**Indemnitee**" has the meaning set forth in Section 13.4 (Conditions to Indemnification).

1.103. "**Infringement**" has the meaning set forth in Section 10.3.1 (Notification).

1.104. "**Initial Interest Notice**" has the meaning set forth in Section 2.2.4(c) (Incremental Development Costs).

1.105. "**Initiation**" means, with respect to any Clinical Trial, the date on which the first subject in such trial receives his or her initial dose in such Clinical Trial.

1.106. "**Insolvency Event**" has the meaning set forth in Section 14.2.3 (Termination for Insolvency).

1.107. "**Intellectual Property Rights**" means any Know-How, Patent Rights, Trademarks, copyrights, trade secrets, and any other intellectual property rights however denominated throughout the world.

1.108. "**Internal Costs**" means, for any period, the product obtained by multiplying (a) the actual total FTEs (or portion thereof) devoted to the performance of activity under this Agreement during such period, by (b) the applicable FTE Rate.

1.109. "**Ionis**" has the meaning set forth in the Preamble.

1.110. "**Ionis Background Technology**" has the meaning set forth in Section 2.7.1 (Option Grant).

1.111. "**Ionis Collaboration Know-How**" has the meaning set forth in Section 10.1.2(b) (Ionis Collaboration Technology).

1.112. "**Ionis Collaboration Patent Rights**" has the meaning set forth in Section 10.1.2(b) (Ionis Collaboration Technology).

1.113. "**Ionis Collaboration Technology**" has the meaning set forth in Section 10.1.2(b) (Ionis Collaboration Technology).

1.114. [***]

1.115. "**Ionis Field**" means all therapeutic, prophylactic, palliative, analgesic, and diagnostic uses in humans utilizing oligonucleotides that bind to RNA, which such oligonucleotides are subject to a Valid Claim of a Patent Right Controlled by Ionis.

1.116. "**Ionis Indemnitees**" has the meaning set forth in Section 13.2 (Indemnification of Ionis by Metagenomi).

1.117. "**Ionis In-License Agreement**" means (a) any Existing Potential Ionis In-License Agreement that becomes an Ionis In-License Agreement pursuant to Section 9.7.2 (Existing Potential Ionis In-License Agreements) and (b) any New Ionis In-License Agreement.

1.118. "**Ionis IP Option**" has the meaning set forth in Section 2.7.1 (Option Grant).

1.119. "**Ionis IP Option Effective Date**" has the meaning set forth in Section 2.7.3(b) (Effects if a Proposed Metagenomi Target is not an Encumbered Proposed Metagenomi Target).

1.120. "**Ionis' Knowledge**" means the knowledge, after reasonable investigation (including consultation with Ionis' outside intellectual property counsel), of the following: [***] as of the applicable date.

1.121. "**Ionis Licensed Know-How**" means all Know-How that is Controlled by Ionis or any of its Affiliates as of the Effective Date or during the Term (other than Joint Collaboration Know-How) that is necessary or reasonably useful to perform the Metagenomi Activities.

1.122. "**Ionis Licensed Patent Rights**" means any Patent Rights Controlled by Ionis or any of its Affiliates that Cover any Ionis Licensed Know-How.

1.123. "**Ionis Licensed Technology**" means Ionis Licensed Know-How and Ionis Licensed Patent Rights.

1.124. "**Ionis Product Development Milestone Event**" has the meaning set forth in Section 9.4.1 (Ionis Product Development Milestone Payments).

1.125. "**Ionis Product Development Milestone Payment**" has the meaning set forth in Section 9.4.1 (Ionis Product Development Milestone Payments).

1.126. "**Ionis Product Regulatory Milestone Event**" has the meaning set forth in Section 9.4.2 (Ionis Product Regulatory Milestone Payments).

1.127. "**Ionis Product Regulatory Milestone Payment**" has the meaning set forth in Section 9.4.2 (Ionis Product Regulatory Milestone Payments).

1.128. "**Ionis Product Sales Milestone Event**" has the meaning set forth in Section 9.4.3 (Ionis Product Sales Milestone Payment).

1.129. "**Ionis Product Sales Milestone Payment**" has the meaning set forth in Section 9.4.3 (Ionis Product Sales Milestone Payment).

1.130. "**Ionis Products**" means any Licensed Products that are the subject of an Ionis Program.

1.131. "**Ionis Programs**" means each Drug Discovery Program for which Metagenomi does not exercise its Co-Co Option prior to the expiration of the applicable Co-Co Option Period or which Metagenomi opts out in accordance with Section 5.4 (Metagenomi Opt-Out).

1.132. "**Ionis Proprietary Toolbox of Chemical Modifications**" [***] that is Covered by an Ionis Toolbox Patent.

1.133. "**Ionis-Prosecuted Patent Rights**" has the meaning set forth in Section 10.2.1(a).

1.134. "**Ionis Records**" has the meaning set forth in Section 9.13.1 (Books and Records).

1.135. "**Ionis Royalties**" has the meaning set forth in Section 9.6.1 (Ionis Royalty Rates).

1.136. "**Ionis Royalty Rates**" has the meaning set forth in Section 9.6.1 (Ionis Royalty Rates).

1.137. "**Ionis Royalty Report**" has the meaning set forth in Section 9.6.4 (Ionis Royalty Reports).

1.138. "**Ionis Toolbox Patent**" means any Patent Right Controlled by Ionis as of the Effective Date or during the Collaboration Term that [***].

1.139. "**Joint Collaboration Know-How**" has the meaning set forth in Section 10.1.2(c) (Joint Collaboration Technology).

1.140. "**Joint Collaboration Patent Rights**" has the meaning set forth in Section 10.1.2(c) (Joint Collaboration Technology).

1.141. "**Joint Collaboration Technology**" has the meaning set forth in Section 10.1.2(c) (Joint Collaboration Technology).

1.142. "**Joint Research Committee**" or "**JRC**" has the meaning set forth in Section 4.3.1 (Formation and Purpose of the JRC).

1.143. "**Joint Steering Committee**" or "**JSC**" has the meaning set forth in Section 4.1.1 (Formation and Purpose of the JSC).

1.144. "**Know-How**" means any information and materials, including records, discoveries, improvements, modifications, processes, techniques, methods, assays, chemical or biological materials, designs, protocols, formulas, data (including physical data, chemical data, toxicology data, animal data, raw data, clinical data, and analytical and quality control data), dosage regimens, control assays, product specifications, marketing, pricing and distribution costs, inventions, algorithms, technology, forecasts, profiles, strategies, plans, results in any form whatsoever, know-how and trade secrets (in each case, patentable, copyrightable or otherwise).

1.145. "**Licensed Know-How**" means any Know-How that is Controlled by Metagenomi or any of its Affiliates as of the Effective Date or during the Term (including Metagenomi Collaboration Know-How, but excluding Joint Collaboration Know-How) that is necessary or reasonably useful to (a) perform the activities under any Collaboration Program Plan or (b) Exploit any Licensed System or Licensed Product.

1.146. "**Licensed Patent Right**" means any Patent Right Controlled by Metagenomi or any of its Affiliates as of the Effective Date or during the Term (including Metagenomi Collaboration Patent Rights, but excluding Joint Collaboration Patent Rights) that are necessary or reasonably useful to (a) perform any activities under any Collaboration Program Plan or (b) Exploit any Licensed System or Licensed Product. The Licensed Patent Rights as of the Effective Date are set forth on Schedule 1.146 (Licensed Patent Rights); *provided* that any Patent Right that otherwise meets this definition will be deemed a Licensed Patent Right even if such Patent Right is not included on Schedule 1.146 (Licensed Patent Rights).

1.147. "**Licensed Product**" means any therapeutic product, medical therapy, preparation or substance, comprising or employing a Licensed System, in any form or formulation, and whether alone or together with one or more other therapeutically active ingredients, delivery devices, or other components. All Licensed Products comprising the same Licensed System will be considered the same Licensed Product under this Agreement.

1.148. "**Licensed Systems**" means, with respect to a Drug Discovery Program, (a) a Gene Editing protein and a Guide RNA that (i) is designed to modulate the Collaboration Target for such Drug Discovery Program and (ii) either (A) was discovered or Developed by Metagenomi prior to the designation of such Collaboration Target or (B) is discovered or Developed pursuant to the Drug Discovery Plan for such Drug Discovery Program, including any Development Candidate for such Drug Discovery Program or (b) any modification or derivative of any Gene Editing protein or Guide RNA described in clause (a).

1.149. "**Licensed Technology**" means all Licensed Know-How and Licensed Patent Rights and Metagenomi's interest in the Joint Collaboration Technology.

1.150. "**Licensee**" has the meaning set forth in Section 15.10.1.

1.151. "**Licensing Party**" has the meaning set forth in Section 15.10.1.

1.152. "**Losses**" has the meaning set forth in Section 13.1 (Indemnification of Metagenomi by Ionis).

1.153. "**MAA**" means any new drug application or other marketing authorization application, in each case, filed with the applicable Regulatory Authority in a country or other regulatory jurisdiction (and all supplements and amendments thereto), which application is required to commercially market or sell a pharmaceutical or biologic product in such country or jurisdiction, including (a) all New Drug Applications and BLAs submitted to the FDA in the United States in accordance with the FD&C Act with respect to a pharmaceutical product, (b) all MAAs submitted to (i) the EMA under the centralized EMA filing procedure in the EU or (ii) a Regulatory Authority in any EU country if the centralized EMA filing procedure is not used to gain Regulatory Approval in such country, (c) all New Drug Applications submitted to the National Medical Products Administration, or (d) any analogous application or submission with any Regulatory Authority in any other country or regulatory jurisdiction.

1.154. "**Major European Markets**" means each of France, Germany, Spain, Italy, and the United Kingdom.

1.155. "**Major Market**" means each of Japan, the Major European Markets, and the US.

1.156. "**Manufacture**" or "**Manufacturing**" means with respect to any product, any and all activities directed to manufacturing, processing, packaging, labeling, filling, finishing, assembly, quality assurance, quality control, analyses, testing and release, shipping, supply, or storage of such product (or any raw materials, components or process steps involving such product or any companion diagnostic), placebo, or comparator agent, as the case may be, including qualification, validation, and scale-up, pre-clinical, clinical, and commercial manufacture and analytic development, product characterization, and stability testing, but excluding any activities directed to Development, Medical Affairs, or Commercialization. "**Manufacturing**" and "**Manufactured**" will be construed accordingly.

1.157. "**Manufacturing Know-How**" has the meaning set forth in Section 8.5 (Manufacturing After the Metagenomi Supply Term).

1.158. "**Manufacturing Technology Transfer**" has the meaning set forth in Section 8.5 (Manufacturing After the Metagenomi Supply Term).

1.159. "**Medical Affairs**" means any and all activities customarily conducted by the medical affairs department of a pharmaceutical or biotechnology company commercializing products similar to the Licensed Products, including communications with key opinion leaders, medical education, symposia, advisory boards (to the extent related to medical affairs or clinical guidance), activities performed in connection with patient registries, and other medical programs and communications, including educational grants, research grants (including conducting investigator-initiated studies), patient advocacy, and charitable donations to the extent related to medical affairs and not related to activities that involve the promotion, marketing, sale, or other Commercialization of a product and that are not conducted by or on behalf of a Party's or any of its Affiliates' medical affairs departments.

1.160. "**Metagenomi**" has the meaning set forth in the Preamble.

1.161. "**Metagenomi Activities**" has the meaning set forth in Section 3.2.1(a) (Metagenomi Activities License Grant).

1.162. **"Metagenomi Collaboration Cost Reports**" has the meaning set forth in Section 2.5.1 (Reimbursement by Ionis).

1.163. "**Metagenomi Collaboration Know-How**" has the meaning set forth in Section 10.1.2(a) (Metagenomi Collaboration Technology).

1.164. "**Metagenomi Collaboration Patent Rights**" has the meaning set forth in Section 10.1.2(a) (Metagenomi Collaboration Technology).

1.165. "**Metagenomi Collaboration Technology**" has the meaning set forth in Section 10.1.2(a) (Metagenomi Collaboration Technology).

1.166. **[***]**

1.167. "**Metagenomi Drug Discovery Costs**" has the meaning set forth in Section 2.5.1 (Reimbursement by Ionis).

1.168. **"Metagenomi Exploratory Research Costs**" has the meaning set forth in Section 2.5.1 (Reimbursement by Ionis).

1.169. "**Metagenomi Field**" means all therapeutic, prophylactic, palliative, analgesic, and diagnostic uses in humans through the use of the Metagenomi Platform.

1.170. "**Metagenomi In-License Agreements**" means (a) any Existing Potential Metagenomi In-License Agreement that becomes a Metagenomi In-License Agreement pursuant to Section 9.7.1 (Effective Date Licensed Technology; Existing Metagenomi In-License Agreements) and (b) any New Metagenomi In-License Agreement.

1.171. "**Metagenomi Indemnitees**" has the meaning set forth in Section 13.1 (Indemnification of Metagenomi by Ionis).

1.172. "**Metagenomi's Knowledge**" means the knowledge, after reasonable investigation (including consultation with Metagenomi's outside intellectual property counsel), of the following: the [***] or, in each case, their functional equivalent.

1.173. "**Metagenomi Platform**" means Metagenomi's proprietary Gene Editing proteins and Guide RNAs specifically claimed in a Valid Claim of a Patent Right Controlled by Metagenomi.

1.174. "**Metagenomi Platform Know-How**" means any Know-How within Metagenomi Platform as of the Effective Date or during the Term.

1.175. "**Metagenomi Platform Patent Rights**" means any Patent Rights Controlled by Metagenomi or its Affiliates as of the Effective Date or during the Term that Cover any Metagenomi Platform Know-How. The Metagenomi Platform Patent Rights Controlled by Metagenomi or any of its Affiliates as of the Effective Date are listed in Schedule 1.175 (Metagenomi Platform Patent Rights); *provided* that any Patent Right that otherwise meets this definition will be deemed a Metagenomi Platform Patent Right even if such Patent Right is not included on Schedule 1.175 (Metagenomi Platform Patent Rights).

1.176. "**Metagenomi Platform Technology**" means the Metagenomi Platform Patent Rights and the Metagenomi Platform Know-How.

1.177. "**Metagenomi Product**" means any therapeutic product, medical therapy, preparation or substance, comprising or employing a Metagenomi System and discovered by Metagenomi, in any form or formulation, and whether alone or together with one or more other therapeutically active ingredients, delivery devices, or other components. All Metagenomi Products comprising the same Metagenomi System will be considered the same Metagenomi Product under this Agreement.

1.178. "**Metagenomi Product Milestone Event**" has the meaning set forth in Section 9.10.1 (Metagenomi Product Milestone Payments).

1.179. "**Metagenomi Product Milestone Payment**" has the meaning set forth in Section 9.10.1 (Metagenomi Product Milestone Payments).

1.180. "**Metagenomi-Prosecuted Patent Rights**" has the meaning set forth in Section 10.2.2 (Metagenomi-Prosecuted Patent Rights).

1.181. "**Metagenomi Records**" has the meaning set forth in Section 9.13.1 (Books and Records).

1.182. "**Metagenomi Royalties**" has the meaning set forth in Section 9.10.3(a) (Metagenomi Royalty Rates)

1.183. "**Metagenomi Royalty Rate**" has the meaning set forth in Section 9.10.3(a) (Metagenomi Royalty Rates)

1.184. "**Metagenomi Royalty Report**" has the meaning set forth in Section 9.10.4 (Metagenomi Royalty Reports).

1.185. "**Metagenomi Royalty Term**" means, on a Metagenomi Product-by-Metagenomi Product and country-by-country basis, the period during the Term ending on the latest of (a) [***] following the First Commercial Sale (applied *mutatis mutandis*) of a Metagenomi Product in a country, (b) the expiration of the last Valid Claim of a Patent Right within the Ionis Background Technology Covering such Metagenomi Product in such country, or (c) the expiration of any applicable Regulatory Exclusivity obtained for such Metagenomi Product in such country.

1.186. "**Metagenomi Supply Term**" has the meaning set forth in Section 8.1.1 (Metagenomi Supply Term).

1.187. "**Metagenomi System**" means a Gene Editing protein and a Guide RNA that is designed to modulate a Metagenomi Target.

1.188. "**Metagenomi Target**" means each target for which Metagenomi exercises an Ionis IP Option pursuant to Section 2.7 (Ionis Proprietary Toolbox of Chemical Modifications).

1.189. "**MG Manufactured Components**" has the meaning set forth in Section 8.1.1 (Metagenomi Supply Term).

1.190. "**Net Sales**" means the gross invoiced amount for (a) Ionis Products sold by Ionis, its Affiliates, or Sublicensees or (b) Metagenomi Products sold by Metagenomi, its Affiliates or Sublicensees, in each case ((a) and (b) (the "**Selling Party**")), to the extent recognized in the ordinary course of business as revenue by the Selling Party on an accrual basis in accordance with United States Generally Accepted Accounting Principles or, in the case of non-United States sales, other applicable accounting standards after deduction of the following amounts:

(a) normal and customary trade, quantity or prompt settlement discounts (including initial launch stocking discounts, chargebacks, and allowances) actually allowed, *provided* that such discounts are not applied disproportionately to such Licensed Product or Metagenomi Product when compared to the other products of the Selling Party;

(b) amounts repaid or credited by reason of rejection, returns or recalls of goods, rebates or *bona fide* price reductions determined by the Selling Party in good faith;

(c) rebates and similar payments made with respect to sales paid for by any Governmental Authority such as, by way of illustration and not in limitation of the Parties' rights hereunder, Federal or state Medicaid, Medicare or similar state program in the United States or equivalent governmental program in any other country;

(d) refunds or clawbacks of a portion of payments previously paid by the Selling Party for not achieving a predetermined metric or term in an outcome-based contracts;

(e) any invoiced amounts that are not collected by the Selling Party, including bad debts, (applied to Net Sales in the period in which such receivables are written off), provided that any such amounts subsequently collected will be included in Net Sales for the period collected;

(f) excise taxes, value added taxes, sales taxes, consumption taxes and other similar taxes (excluding any income, franchise, or withholding taxes), customs duties, customs levies and import fees imposed on the sale, importation, use or distribution of the Licensed Product, including fees paid pursuant to Section 9008 of the Patient Protection and Affordable Care Act that the Selling Party allocate to sales of the Licensed Product or Metagenomi Product (as applicable) in accordance with such Selling Party's standard policies and procedures consistently applied across its products, as applicable; and

(g) an allowance for transportation costs, distribution expenses, special packaging, insurance charges, and storage and warehousing costs.

Net Sales (including any deductions) will be calculated using the Selling Party's internal audited systems used to report such sales as adjusted for any of the items above not taken into account in such systems, fairly applied and as employed on a consistent basis throughout such Selling Party's operations. To the extent any accrued amounts used in the calculation of Net Sales are estimates, such estimates will be trued-up to actuals (including that, for any estimates of deductions that are later decreased, the difference will be added back to Net Sales). In no event will any particular amount identified above be deducted more than once in calculating Net Sales (*i.e.*, no "double counting" of deductions).

In the case of any sale or other disposal of a product between or among such Party or its Affiliates or Sublicensees for resale, Net Sales will be calculated only on the value charged or invoiced on the first arm's-length sale thereafter to a Third Party (other than a Sublicensee). In the case of any sale that is not invoiced or is delivered before invoice, Net Sales will be calculated at the time all the revenue recognition criteria under such Party's Accounting Standards are met. In the case of any sale or other disposal for value, such as barter or counter-trade, of any Licensed Product or Metagenomi Product (as applicable), or part thereof, other than in an arm's-length transaction exclusively for money, Net Sales will be calculated on the value of the non-cash consideration received or the fair market price (if higher) of such Licensed Product(s) or Metagenomi Product(s) (as applicable) in the country of sale or disposal. Notwithstanding the foregoing, the following will not be included in Net Sales: (1) sales between or among a Party and its Affiliates or Sublicensees (but Net Sales will include sales to the first Third Party (other than a Sublicensee) by a Party or its Affiliates or Sublicensees); and (2) any named patient sales or any sale or other distribution at cost or less than cost for use in any Clinical Trial, for *bona fide* charitable purposes, test marketing program, or for compassionate use.

Solely for purposes of calculating Net Sales, if the Selling Party sells a Licensed Product or Metagenomi Product (as applicable) in the form of a combination product containing a Licensed System or Metagenomi System (as applicable) and one or more other therapeutically or prophylactically active ingredients or delivery devices that is not a Licensed System or Metagenomi System (as applicable) ("**Other Product**") (whether combined in a single formulation or package, as applicable, or formulated separately but packaged under a single label approved by a Regulatory Authority and sold together for a single price) (such combination product, a "**Combination Product**"), Net Sales of such Combination Product for the purpose of determining the payments due to the other Party pursuant to this Agreement will be calculated by [***]. If the gross selling price of a Licensed Product or Metagenomi Product (as applicable) containing such Licensed System or Metagenomi System (as applicable) in such country when sold separately in finished form (*i.e.*, without the other active ingredients or delivery device) can be determined but the gross selling price of the Other Product in such country cannot be determined, then Net Sales in such country for purposes of determining royalty payments will be calculated by [***]. If such separate sales are not made in a country, then Net Sales will be calculated by [***].

If a license agreement or collaboration agreement that is negotiated in an arm's length transaction with an Sublicensee includes a definition of "Net Sales" that differs in any material respect from the definition contained in this Section 1.190 (Net Sales), then the Parties will discuss such material differences and will use reasonable efforts to negotiate in good faith any reasonable modifications to this Section 1.190 (Net Sales) that are necessary to avoid any ambiguity in the calculation of the royalty payment due to a Party under this Agreement for sales of Licensed Products or Metagenomi Products by such Sublicensee.

1.191. "[***]" means [***].

1.192. "**New In-License Agreement**" has the meaning set forth in Section 9.8.2 (Acceptance of a Proposed New In-License Agreement).

1.193. "**New Ionis In-License Agreement**" has the meaning set forth in Section 9.8.2 (Acceptance of a Proposed New In-License Agreement).

1.194. "**New Metagenomi In-License Agreement**" has the meaning set forth in Section 9.8.2 (Acceptance of a Proposed New In-License Agreement).

1.195. "**Non-Withholding Party**" has the meaning set forth in Section 9.17 (Withholding Taxes).

1.196. "**Opt-Down Right**" has the meaning set forth in Section 5.2 (Development and Commercialization of the Co-Co Products; Opt-Down Right).

1.197. "**Opt-Out Date**" has the meaning set forth in Section 5.4 (Metagenomi Opt-Out).

1.198. "**Opt-Out Period**" has the meaning set forth in Section 5.4 (Metagenomi Opt-Out).

1.199. "**Opt-Out Right**" has the meaning set forth in Section 5.4 (Metagenomi Opt-Out).

1.200. "**Option Exercise Fee**" has the meaning set forth in Section 9.3 (Option Exercise Fee).

1.201. "**Option Exercise Notice**" has the meaning set forth in Section 2.7.2 (Option Exercise).

1.202. "**Option Package**" has the meaning set forth in Section 5.1.2 (Option Period).

1.203. "**Option Term**" has the meaning set forth in Section 2.7.2 (Option Exercise).

1.204. "**Other Product**" has the meaning set forth in Section 1.190 (Net Sales).

1.205. "**Out-of-Pocket Costs**" means, with respect to certain activities hereunder, direct expenses actually paid or payable by a Party or its Affiliates to Third Parties and specifically identifiable and incurred to conduct such activities, but excluding any costs that are included in the FTE Rate.

1.206. "**Party**" has the meaning set forth in the Preamble.

1.207. "**Party Vote**" has the meaning set forth in Section 4.6.1 (Committee Decisions).

1.208. "**Patent Rights**" means all rights, title, and interests in and to (a) all national, regional, and international patents and patent applications filed in any country of the world including provisional patent applications and all supplementary protection certificates, (b) all patent applications filed either from such patents, patent applications, or provisional applications or from an application claiming priority to any of the foregoing, including any continuation, continuation-in part, divisional, provisional, converted provisionals and continued prosecution applications, or any substitute applications, (c) any patent issued with respect to or in the future issued from any such patent applications, including utility models, petty patents, design patents and certificates of invention, and (d) any and all extensions or restorations by existing or future extension or restoration mechanisms, including revalidations, reissues, reexaminations and extensions (including any supplementary protection certificates and the like) of the foregoing patents or patent applications.

1.209. "**Payments**" has the meaning set forth in Section 9.17 (Withholding Taxes).

1.210. "**Person**" means an individual, sole proprietorship, partnership, limited partnership, limited liability partnership, corporation, limited liability company, business trust, joint stock company, trust, incorporated association, joint venture or similar entity or organization, including any Governmental Authority (or any department, agency, or political subdivision thereof).

1.211. "**Phase III Clinical Trial**" means a Clinical Trial that the FDA permits to be conducted under an open IND and that is performed to gain evidence with statistical significance of the efficacy of such product in a target population, and to obtain expanded evidence of safety for such product that is needed to evaluate the overall benefit-risk relationship of such product, to form the basis for approval of an MAA by a Regulatory Authority and to provide an adequate basis for physician labeling, in a manner that meets the requirements of 21 C.F.R. § 312.21(c), as amended (or its successor regulation), or, with respect to any other country or region, the equivalent of such a Clinical Trial in such other country or region. Notwithstanding anything to the contrary set forth in this Agreement, treatment of patients as part of an expanded access program, compassionate sales or use program (including named patient program or single patient program), or an indigent program, in each case, will not be included in determining whether or not a Clinical Trial is a Phase III Clinical Trial or whether a patient has been dosed thereunder.

1.212. "**Pivotal Clinical Trial**" means any (a) Phase III Clinical Trial, or (b) other Clinical Trial of a product on a sufficient number of patients, the results of which, together with prior data and information concerning such product, are intended to be or otherwise are sufficient, without any additional Clinical Trial, to meet the evidentiary standard for demonstrating the safety, purity, efficacy, and potency of such active substance of such product established by a Regulatory Authority in any particular jurisdiction, as evidenced by finalized meeting minutes or another written statement from such Regulatory Authority, and that is intended to support, or otherwise supports, the filing of an MAA by a Regulatory Authority in such jurisdiction (including any bridging study). Notwithstanding any provision to the contrary set forth in this Agreement, treatment of patients as part of an expanded access program, compassionate sales or use program (including named patient program or single patient program), or an indigent program, in each case, will not be included in determining whether or not a Clinical Trial is a Pivotal Clinical Trial or whether a patient has been dosed thereunder.

1.213. "**Pre-Existing Ionis Restriction**" has the meaning set forth in Section 2.7.3(a) (Encumbered Targets).

1.214. "**Pre-Existing Restriction**" has the meaning set forth in Section 2.1.4(a) (Encumbered Targets).

1.215. "**Pricing Approval**" means, in any country where a Governmental Authority authorizes reimbursement for, or approves or determines pricing for, pharmaceutical products, receipt (or, if required to make such authorization, approval or determination effective, publication) of such reimbursement authorization or pricing approval or determination.

1.216. "**Proceeding**" means any action, suit, litigation, arbitration, proceeding (including any civil, criminal, administrative, investigative or appellate proceeding), prosecution, contest, hearing, inquiry, inquest, audit, examination or investigation that is, has been or may in the future be commenced, brought, conducted or heard at law or in equity or before any Governmental Authority.

1.217. "**Product-Specific Know-How**" means any Licensed Know-How that specifically relates to (a) a Licensed System or Licensed Product, (b) any method of making a Licensed System or Licensed Product, or (c) the use of a Licensed System or Licensed Product and no other products that are not Licensed Systems or Licensed Products.

1.218. "**Product-Specific Patent Right**" means any Licensed Patent Right that specifically claims (a) a Licensed System or Licensed Product, (b) any method of making a Licensed System or Licensed Product, or (c) the use of a Licensed System or Licensed Product and no other products that are not Licensed Systems or Licensed Products.

1.219. "**Proposed Metagenomi Target**" has the meaning set forth in Section 2.7.2 (Option Exercise).

1.220. **"Proposed Metagenomi Target Notice**" has the meaning set forth in Section 2.7.2 (Option Exercise).

1.221. "[***]" has the meaning set forth in Section 2.2.4(c) (Incremental Development Costs).

1.222. "**Proposed New In-License Agreement**" has the meaning set forth in Section 9.8.1 (Proposed New In-License Agreements).

1.223. **"Proposed New Ionis In-License Agreement**" has the meaning set forth in Section 9.8.1 (Proposed New In-License Agreements).

1.224. **"Proposed New Metagenomi In-License Agreement**" has the meaning set forth in Section 9.8.1 (Proposed New In-License Agreements).

1.225. "**Proposed Replacement Target**" has the meaning set forth in Section 2.1.3(d) (Substitution Procedure).

1.226. "**Proposed Target**" means any (a) Additional Wave 1 Target, (b) Wave 2 Target, or (c) Proposed Replacement Target.

1.227. "**Prosecuting Party**" means, with respect to any Patent Right, the Party that is responsible for the Prosecution and Maintenance of such Patent Right pursuant to Section 10.2.1 (Ionis- Prosecuting Patent Rights) or Section 10.2.2 (Metagenomi-Prosecuted Patent Rights), as applicable.

1.228. "**Prosecution and Maintenance**" or "**Prosecute and Maintain**" means, with regard to a Patent Right, the preparing, filing, prosecuting, and maintenance of such Patent Right, as well as handling re-examinations and reissues with respect to such Patent Right, together with the conduct of interferences, derivation proceedings, the defense of oppositions, post-grant patent proceedings (such as *inter partes* review and post grant review), and other similar proceedings with respect to the particular Patent Right. For clarity, "**Prosecution and Maintenance**" or "**Prosecute and Maintain**" will not include any other enforcement actions taken with respect to a Patent Right.

1.229. **"Quarterly Reimbursement Payments**" has the meaning set forth in Section 2.5.1 (Reimbursement by Ionis).

1.230. "**Receiving Party**" has the meaning set forth in Section 11.1.1 (General).

1.231. "**Regulatory Approval**" means, with respect to a particular country or other regulatory jurisdiction in the Territory, any approval of an MAA or other approval, product, or establishment license, registration, or authorization of the applicable Regulatory Authority necessary for the commercial marketing or sale of a pharmaceutical or biologic product in such country or other regulatory jurisdiction, including, where applicable, Pricing Approval.

1.232. "**Regulatory Authority**" means, with respect to a country in the Territory, any national (e.g., the FDA), supra-national (e.g., the European Commission, the Council of the European Union, or the EMA), regional, state or local regulatory agency, department, bureau, commission, council or other Governmental Authority involved in the granting of Regulatory Approvals or Pricing Approvals for pharmaceutical products in such country or countries.

1.233. "**Regulatory Exclusivity**" means, with respect to a Licensed Product or Metagenomi Product (as applicable) in a country, any data exclusivity rights or other exclusive right, other than a Patent Right, granted, conferred, or afforded by any Regulatory Authority in such country or otherwise under Applicable Law with respect to such Licensed Product or Metagenomi Product (as applicable) in such country, which either confers exclusive marketing rights with respect to a product or prevents another party from using or otherwise relying on the data supporting the approval of the Regulatory Approval for a product without the prior written authorization of the Regulatory Approval holder, as applicable, such as new chemical entity exclusivity, exclusivity associated with new Clinical Trials necessary to approval of a change (e.g., new indication or use), orphan drug exclusivity, non-patent-related pediatric exclusivity, or any other applicable marketing or data exclusivity, including any such periods under national implementations in the EU of Article 10 of Directive 2001/83/EC, Article 14(11) of Parliament and Council Regulation (EC) No 726/2004, Parliament and Council Regulation (EC) No 141/2000 on orphan medicines, Parliament and Council Regulation (EC) No 1901/2006 on medicinal products for pediatric use and all international equivalents.

1.234. "**Regulatory Strategy**" has the meaning set forth in Section 7.1 (Regulatory Responsibility).

1.235. "**Regulatory Submissions**" means any regulatory application, submission, notification, communication, correspondence, registration, Regulatory Approval, and other filing, made to, received from or otherwise conducted with a Regulatory Authority related to Developing, Manufacturing, obtaining marketing authorization, or otherwise Commercializing a product in a particular country or jurisdiction, including all INDs, CTAs, BLAs, MAAs, and all applications for Regulatory Approval together with all supplements or amendments to any of the foregoing.

1.236. "**Reimbursement Cap**" has the meaning has the meaning set forth in Section 2.5.1 (Reimbursement by Ionis).

1.237. "**Replacement Target Notice**" has the meaning set forth in Section 2.1.3(d) (Substitution Procedure).

1.238. "**Requested CMO**" has the meaning set forth in Section 8.1.2 (Requested CMO).

1.239. "**Requested CMO Contract**" has the meaning set forth in Section 8.1.2 (Requested CMO).

1.240. "**Residual Knowledge**" has the meaning set forth in Section 11.3 (Residual Knowledge).

1.241. "**Reversion IP In-License Agreement**" has the meaning set forth in Section 14.3.6(b) (Third Party Reversion IP).

1.242. "**Reversion License**" has the meaning set forth in Section 14.3.6(a) (Reversion License Grant).

1.243. "**Royalty Bearing Patent Rights**" means, with respect to any Licensed Product, all Licensed Patent Rights that Cover such Licensed Product and that are listed in the then-current edition of the FDA's Purple Book in connection with the Regulatory Approval of such Licensed Product, or in equivalent patent listings in any other country within the Territory.

1.244. "**Royalty Term**" means, on a Licensed Product-by-Licensed Product and country-by-country basis, the period during the Term ending on the latest of (a) 12 years following the First Commercial Sale of a Licensed Product in a country, (b) the expiration of the last Valid Claim of the Royalty Bearing Patent Rights Covering such Licensed Product in such country, or (c) the expiration of any applicable Regulatory Exclusivity obtained for such Licensed Product in such country.

1.245. "**Second Wave 1 Target**" has the meaning set forth in Section 2.1.1(b) (Second Wave 1 Target).

1.246. "**Selling Party**" has the meaning set forth in Section 1.190 (Net Sales).

1.247. "**Subcommittee**" has the meaning set forth in Section 4.2 (Subcommittees).

1.248. "**Subcontractor**" means a Third Party contractor engaged by a Party to perform certain obligations or exercise certain rights of such Party under this Agreement on a fee-for-service basis (including Third Party Distributors, contract research organizations, or contract manufacturing organizations).

1.249. "**Sublicensee**" means a Third Party to whom a Party or any of its Affiliates grants a sublicense under the licenses granted to such Party under this Agreement, as permitted herein, excluding all Subcontractors.

1.250. "**Supply Price**" has the meaning set forth in Section 8.1.1 (Metagenomi Supply Term).

1.251. "**Target Selection and Substitution Period**" has the meaning set forth in Section 2.1.4(b) (Expiration of Pre-Existing Restrictions).

1.252. "**Target Substitution Period**" has the meaning set forth in Section 2.1.3(a) (Discretionary Substitutions).

1.253. "**Technological Infeasibility**" has the meaning set forth in Section 2.1.3(b) (Substitutions for Technological Infeasibility).

1.254. "**Term**" has the meaning set forth in Section 14.1 (Term).

1.255. "**Terminated Combination Products**" has the meaning set forth in Section 14.3.7 (Reversion for Certain Combination Products).

1.256. "**Terminated Country**" means (a) any country in the Territory with respect to which this Agreement is terminated or expires pursuant to Article 14 (Term and Termination), and (b) in the event of termination or expiration of this Agreement in its entirety, all countries in the Territory.

1.257. "**Terminated Products**" means (a) any Licensed Product with respect to which this Agreement is terminated or expires pursuant to Article 14 (Term and Termination), and (b) in the event of termination or expiration of this Agreement in its entirety, all Licensed Products.

1.258. "**Territory**" means all countries of the world and all territories and possessions thereof.

1.259. "**Third Party**" means any Person other than a Party or an Affiliate of a Party.

1.260. "**Third Party Claims**" has the meaning set forth in Section 13.1 (Indemnification of Metagenomi by Ionis).

1.261. "**Third Party Distributor**" means any Third Party that distributes (but does not Develop or Manufacture) a Licensed Product directly to customers.

1.262. "**Third Party Expert**" has the meaning set forth in Section 15.1.3(a).

1.263. "**Third Party Infringement Claim**" has the meaning set forth in Section 10.4 (Defense of Claims Brought by Third Parties).

1.264. "**Third Party IP**" has the meaning set forth in Section 9.6.2(c) (Third Party Payments).

1.265. "**Third Party Payment**" has the meaning set forth in Section 9.6.2(c) (Third Party Payments).

1.266. "**Trademarks**" means all registered and unregistered trademarks, service marks, trade dress, trade names, logos, insignias, symbols, designs, and all other indicia of ownership, and combinations thereof.

1.267. "[***]" has the meaning set forth in Section 2.1.1(a) (Initial Wave 1 Target).

1.268. "[***] **Target Population**" has the meaning set forth in Section 9.5 (Ionis Products for [***] Target Populations).

1.269. "**Unblocking Field**" means [***].

1.270. "**United States**" or "**U.S.**" means the United States of America and all of its districts, territories and possessions.

1.271. "**Upfront Payment**" has the meaning set forth in Section 9.1 (Upfront Payment).

1.272. "**Valid Claim**" means, with respect to a particular country, (a) a claim of any issued and unexpired patent in such country whose validity, enforceability, or patentability has not been terminated by any of the following: (i) irretrievable lapse, abandonment, revocation, dedication to the public, or disclaimer; or (ii) a holding, finding, or decision of invalidity, unenforceability, or non-patentability, from which decision no appeal can be further taken, or (b) a claim within a patent application in such country that has not been pending for more than seven years from the earliest date to which such claim or the applicable patent application is entitled to claim priority and which claim has not been revoked, cancelled, withdrawn, held invalid, or abandoned.

1.273. "**Warranty Technology**" means (a) with respect to any representation or warranty made as of the Effective Date, (i) the Metagenomi Platform Technology in the Field, and (ii) the Licensed Technology that is necessary or reasonably useful to Exploit Licensed Systems and Licensed Products in the Field that are directed to [***], and (b) with respect to any representation or warranty made as of the date on which each new target becomes a Collaboration Target pursuant to Section 2.1.1(b) (Second Wave 1 Target) or Section 2.1.4(c) (Effects if a Proposed Target is Available), the Licensed Technology that is necessary or reasonably useful to Exploit Licensed Systems and Licensed Products in the Field that are directed to such Collaboration Target.

1.274. "**Wave 1 Target**" means each (a) [***], (b) the Second Wave 1 Target, and (c) any Additional Wave 1 Target that Ionis designates in accordance with Section 2.1.4(c) (Effects if a Proposed Target is Available).

1.275. "**Wave 2 Target**" has the meaning set forth in Section 2.1.2 (Wave 2 Target Options).

1.276. "**Wave 2 Target Notice**" has the meaning set forth in Section 2.1.2 (Wave 2 Target Options).

1.277. "**Wave 2 Target Selection Fee**" has the meaning set forth in Section 9.2 (Wave 2 Target Selection Fee).

1.278. "**Wave 2 Target Selection Period**" has the meaning set forth in Section 2.1.2 (Wave 2 Target Options).

1.279. "**Withholding Party**" has the meaning set forth in Section 9.17 (Withholding Taxes).

Schedule 1.114

[***]

[***]

Schedule 1.146

Licensed Patent Rights

[***]

Schedule 1.166

[***]

[***]

Schedule 1.175

Metagenomi Platform Patent Rights

[***]

Schedule 2.1.1(a)

[***]

[***]

Schedule 2.2

[***]

Schedule 2.3.1

Exploratory Research Plan

Attached.

Schedule 8.2

Development Supply Agreement Key Terms

[***]

Schedule 11.4

Press Release(s)

Attached.

Schedule 12.2

Metagenomi Disclosure Schedule

[***]

Schedule 12.4

Ionis Disclosure Schedule

[***]

Exhibit 10.8

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [***], HAS BEEN OMITTED BECAUSE IT IS NOT MATERIAL AND IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL.

DEVELOPMENT, OPTION

AND LICENSE AGREEMENT

BY AND BETWEEN

METAGENOMI, INC.

and

AFFINI-T THERAPEUTICS, INC.

June 14, 2022

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(continued)

DEVELOPMENT, OPTION AND LICENSE AGREEMENT

This DEVELOPMENT, OPTION AND LICENSE AGREEMENT (this "**Agreement**") is entered into as of June 14, 2022 (the "**Effective Date**") by and between Metagenomi, Inc. ("**Metagenomi**"), a Delaware corporation having a place of business at 1545 Park Ave., Emeryville CA 94608, and Affini-T Therapeutics, Inc., a Delaware corporation having a place of business at 343 Arsenal St., Watertown, MA 02472 ("**Affini-T**"). Each of Metagenomi and Affini-T is sometimes referred to individually herein as a "**Party**" and collectively as the "**Parties**".

RECITALS

WHEREAS, Metagenomi is a gene editing company that owns or otherwise controls patent rights and know-how related to gene editing;

WHEREAS, Affini-T is a biotech company developing immune cell receptor-based therapies, preventative treatments and diagnostics;

WHEREAS, the Parties previously entered into an amended and restated side letter on May 28, 2021 and effective as of December 23, 2020 (the "**A&R Side Letter**"), a Stock Issuance Notice and Restricted Stock Agreement dated December 23, 2020 (collectively, the "**Existing RSA**") and an MFN waiver letter dated August 5, 2021 (the "**MFN Waiver**"); and

WHEREAS, the Parties wish to have Metagenomi identify, develop or optimize certain Metagenomi Reagents using Metagenomi's proprietary technology to be used by Affini-T to develop and commercialize gene edited TCR-based therapeutic products in the Fields in the Territory.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and for other good and valuable consideration, the Parties hereto, intending to be legally bound, hereby agree as follows:

1. DEFINITIONS

Whenever used in this Agreement with an initial capital letter, the terms defined in this Article 1 shall have the meanings specified herein and therein.

1.1 "**A&R Side Letter**" is defined in the Preamble.

1.2 "**Affiliate**" means, with respect to either Party, any Person that directly or indirectly controls, is controlled by or is under common control with such Party; for purposes of this definition, the term "control" (including, with correlative meaning, the terms "controlled by" or "under common control with") means direct or indirect ownership of more than fifty percent (50%), including ownership by trusts with substantially the same beneficial interests, of the voting and equity rights of such Person, firm, trust, corporation, partnership or other entity or combination thereof, or the power to direct the management of such Person, firm, trust, corporation, partnership or other entity or combination thereof.

1.3 "**Affini-T**" is defined in the Preamble.

1.4 "**Affini-T Agreement IP**" is defined in Section 10.2.1(b).

1.5 "**Affini-T Agreement Know-How**" is defined in Section 10.2.1(b).

1.6 "**Affini-T Agreement Patent Rights**" is defined in Section 10.2.1(b).

1.7 "**Affini-T Background IP**" means (a) Know-How Controlled by Affini-T on or prior to the Effective Date, or that Affini-T comes to Control outside of this Agreement during the Term, that is necessary for Metagenomi to perform its obligations under this Agreement, and (b) Patent Rights Controlled by Affini-T on or prior to the Effective Date, or that Affini-T comes to Control outside of this Agreement during the Term, that Cover the Know-How described in the foregoing clause (a).

1.8 "**Affini-T Clinical Target**" means, as of the Effective Date, each of [***] and, in each case, including any modification, translation, variation or mutation thereof; provided, that (i) Affini-T may replace up to [***] pursuant to Section 2.1.2(e); (ii) at any given time, the total number of Affini-T Clinical Targets may not exceed six (6); and (iii) each specifically identified target (i.e., the foregoing (a) through (f) and any replacement target added pursuant to Section 2.1.2(e)) will include genetic variants thereof [***] are deemed one Affini-T Clinical Target). For the purposes of this definition:

"**[***]**.

Each of the foregoing targets shall cease to be an Affini-T Clinical Target in the case of termination with respect to such target pursuant to Sections 2.1.2(a) or 12.2 or in the case of replacement of such target pursuant to Section 2.1.2(e).

1.9 "**Affini-T Indemnitees**" is defined in Section 14.2.

1.10 "**Affini-T Indemnity Claims**" is defined in Section 14.2.

1.11 "**Affini-T IP**" means Affini-T Background IP and Affini-T Agreement IP.

1.12 "**Affini-T Patent Rights**" means all (a) Affini-T Agreement Patent Rights and (b) Patents Rights that are included within Affini-T Background IP.

1.13 "**Agreement**" is defined in the Preamble.

1.14 "**Agreement Dispute**" is defined in Section 15.1.4.

1.15 "**Agreement IP**" means, as applicable, Affini-T Agreement IP or Metagenomi Agreement IP.

1.16 "**Agreement Know-How**" means all Know-How identified, conceived, discovered, created, reduced to practice or otherwise Developed in the course of conducting activities under this Agreement (e.g., Metagenomi Research Activities). Agreement Know-How is either "Affini-T Agreement Know-How" or "Metagenomi Agreement Know-How".

1.17 “**Agreement Patent Rights**” means Patent Rights that Cover Agreement Know-How. Agreement Patents Rights are either “Affini-T Agreement Patent Rights” or “Metagenomi Agreement Patent Rights”.

1.18 “**Alliance Manager**” is defined in Section 3.6.

1.19 “**Annual Net Sales**” means the cumulative worldwide Net Sales of an applicable Licensed Product in a given Calendar Year.

1.20 “**Applicable Laws**” means any national, international, federal, state or local laws, treaties, statutes, ordinances, rules and regulations, including any rules, regulations, guidance, guidelines or requirements of any Regulatory Authority, national securities exchange or securities listing organization, that are in effect from time to time during the Term and apply to a particular activity or Party hereunder.

1.21 “**Available**” is defined in Section 2.1.2(e).

1.22 “**Bankruptcy Code**” means the U.S. Bankruptcy Code, as amended from time to time, and the rules and regulations and guidelines promulgated thereunder.

1.23 “**BLA**” means a Biologics License Application, as defined in the FDCA and regulations promulgated thereunder, or any successor application or procedure required to sell a Licensed Product in the United States.

1.24 “**Business Day**” means any day other than: (a) a Saturday, Sunday, or day on which commercial banks in (i) Boston, Massachusetts or (ii) San Francisco, California are authorized or required by Applicable Law to remain closed; or (b) December 25 through January 1.

1.25 “**Calendar Quarter**” means the period beginning on the Effective Date and ending on the last day of the calendar quarter in which the Effective Date falls, and thereafter each successive period of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31; provided, that, the final Calendar Quarter shall end on the last day of the Term.

1.26 “**Calendar Year**” means the period beginning on the Effective Date and ending on December 31 of the calendar year in which the Effective Date falls, and thereafter each successive period of twelve (12) months commencing on January 1 and ending on December 31; provided, that, the final Calendar Year shall end on the last day of the Term.

1.27 “**Change of Control**” means, with respect to a Party, (a) a merger or consolidation of such Party with a Third Party that results in the voting securities of such Party outstanding immediately prior thereto, or any securities into which such voting securities have been converted or exchanged, ceasing to represent at least fifty percent (50%) of the combined voting power of the surviving entity or the parent of the surviving entity immediately after such merger or consolidation, (b) a transaction or series of related transactions in which a Third Party, together

with its Affiliates, becomes the beneficial owner of fifty percent (50%) or more of the combined voting power of the outstanding securities of such Party, or (c) the sale or other transfer to a Third Party of all or substantially all of such Party's assets or all or substantially all of such Party's assets to which this Agreement relates.

1.28 "**Claim**" means a Metagenomi Indemnity Claim or an Affini-T Indemnity Claim, as applicable.

1.29 "**Clinical Trial**" means human clinical trials, including Pivotal Trials.

1.30 "**CoC Affiliate**" is defined in Section 2.2.3.

1.31 "**Combination Product**" means any Licensed Product sold in combination with or includes one or more Other Components.

1.32 "**Commercial License**" means, on an Affini-T Clinical Target-by-Affini-T Clinical Target basis, individually or collectively, an Exclusive License and/or a Non-Exclusive License with respect to such Affini-T Clinical Target, as applicable (based on whether an Option for an Exclusive License and/or a Non-Exclusive License is being elected by Affini-T).

1.33 "**Commercialization**" or "**Commercialize**" means any and all activities directed to the offering for sale and sale of a Licensed Product including activities directed to marketing, promoting, detailing, distributing, importing, selling and offering to sell that Licensed Product, and seeking pricing approvals and reimbursement approvals (in each case, as and to the extent applicable) for that Licensed Product in the Territory, and interacting with Regulatory Authorities regarding the foregoing. When used as a verb, "to **Commercialize**" and "**Commercializing**" means to engage in Commercialization, "**Commercialized**" has a corresponding meaning, and "**Commercial**" means activities in connection with any of the foregoing.

1.34 "**Commercially Reasonable Efforts**" means the [***].

1.35 "**Commercial Quality Agreement**" is defined in Section 7.1.

1.36 "**Commercial Supply Agreement**" is defined in Section 7.1.

1.37 "**Competing Activities**" is defined in Section 1.69.

1.38 "**Competing Business**" is defined in Section 4.2.1(e).

1.39 "**Competing Acquiror**" means [***].

1.40 "**Compulsory License**" means, with respect to a Licensed Product, in a country or territory, a license or rights granted to a Third Party by a Governmental Authority within such country or territory to sell or offer for sale such Licensed Product in such country or territory under any Patents Controlled by Metagenomi, Affini-T or their respective Affiliates, without direct or indirect authorization from Metagenomi, Affini-T or their respective Affiliates, for example a right granted pursuant to requests under 30 August 2003 WTO decision.

1.41 "**Confidential Information**" means (a) with respect to Metagenomi, all information Controlled by Metagenomi and Metagenomi's Proprietary Materials; and (b) with respect to Affini-T, all information Controlled by Affini-T and Affini-T's Proprietary Materials, that are, in either case, disclosed or provided by or on behalf of a Party (the "**Disclosing Party**") to the other Party (the "**Receiving Party**") or to any of the employees, directors or agents of, or consultants/service providers to, the Receiving Party; provided, that, none of the foregoing shall be deemed Confidential Information if the Receiving Party demonstrates by contemporaneous credible written documentation that: (1) as of the date of disclosure, it is known to the Receiving Party or its Affiliates, other than by virtue of a prior confidential disclosure to such Receiving Party; (2) as of the date of disclosure it is in the public domain, or it subsequently enters the public domain through no fault of the Receiving Party; (3) it is obtained by the Receiving Party from a Third Party having a lawful right to make such disclosure free from any obligation of confidentiality to the Disclosing Party of which the Receiving Party should be reasonably aware; or (4) it is independently developed by or for the Receiving Party without reference to or use of any Confidential Information of the Disclosing Party. For clarity, any combination of Confidential Information shall not be considered in the public domain or in the possession of the Receiving Party merely because individual elements of such Confidential Information are in the public domain or in the possession of the Receiving Party unless the combination and its principles are in the public domain or in the possession of the Receiving Party. Notwithstanding anything herein to the contrary, (i) the terms of this Agreement shall constitute Confidential Information of each Party, and (ii) Confidential Information Controlled by Metagenomi or any of its Affiliates exclusively relating to a Licensed Product or the exploitation thereof, and is not generally related to Metagenomi's platform or have applicability beyond a Licensed Product ("**Product Information**") shall be deemed to be Confidential Information of Affini-T (and Affini-T the Disclosing Party, and Metagenomi the Receiving Party, with respect thereto and regardless of the Party initially disclosing the same).

1.42 "**Content**" is defined in Section 9.2.1.

1.43 "**Control**" or "**Controlled**" means with respect to any Proprietary Materials, Know-How, Patent Rights, or other intellectual property rights, that a Party or any of its Affiliates has the legal authority or right (whether by ownership or license) to grant to the other Party a license, covenant not to sue, sublicense, access, or right to use (as applicable) under, in and to such Proprietary Materials, Know-How, Patent Rights, or other intellectual property rights, on the terms and conditions set forth herein, in each case without violating any obligations of the granting Party owed to a Third Party, breaching the terms of any agreement with a Third Party or subjecting the granting Party to any fee or charge. Notwithstanding the foregoing, any New Affiliate of a Party shall not be considered an Affiliate of such Party for the purposes of this definition.

1.44 "**Cover**" or "**Covered**" or "**Covering**" means, with respect to a Licensed Product or component thereof, that the Manufacture, use, offer for sale, sale, import or export of such Licensed Product or component thereof in a particular country by an unlicensed Person would infringe a Valid Claim.

1.45 "**Data Package**" is defined in Section 4.1.

1.46 “**Development**” or “**Develop**” means, with respect to a Licensed Product, all non-clinical and clinical drug development activities that are not Metagenomi Research Activities through and including the performance of Clinical Trials with respect to that Licensed Product, and the preparation and filing of Regulatory Filings and all regulatory affairs related to the foregoing. When used as a verb, “**Developing**” means to engage in Development and “**Developed**” has a corresponding meaning. For clarity, “**Development**” shall not include any Commercialization activities.

1.47 “**Development Quality Agreement**” is defined in Section 7.1.

1.48 **“Development Supply Agreement**” is defined in Section 7.1.

1.49 “**Disclosing Party**” is defined in Section 1.41.

1.50 “**Disputed Matter**” is defined in Section 3.5.1.

1.51 “**DMF**” means a Drug Master File maintained with a Regulatory Authority in any country within the Territory. For the purposes of this Agreement, there are two sub-types of DMF:

“**Affini-T-Relevant DMF**” is defined in Section 5.5.1.

“**MG DMF**” means a DMF that is both Controlled by Metagenomi and covers a Metagenomi Reagent.

1.52 “**Drug Approval Application**” means, with respect to a Licensed Product in any country in the Territory, an application for Marketing Authorization for such Licensed Product in such country, including a BLA or a counterpart of a BLA (or the equivalent filing(s) outside of the United States) in any country in the Territory and all renewals, supplements and amendments to any of the foregoing.

1.53 “**Effective Date**” is defined in the Preamble.

1.54 “**EMA**” means the European Medicines Agency or any successor agency or authority thereto.

1.55 “**Escrow Agent**” is defined in Section 2.1.2(d).

1.56 “**Escrow Materials**” is defined in Section 2.1.2(d).

1.57 “**European Union**” or “**EU**” means the countries of the European Union as constituted from time to time, and any successor thereto.

1.58 “**Exclusive Field**” means the treatment, prevention or diagnosis of any human cancer using products with any engineered Primary TCR alpha/beta T Cells.

1.59 “**Exclusive License**” is defined in Section 2.1.2(b).

1.60 “**Exclusive Option**” is defined in Section 2.1.2.

1.61 "**Exclusively Licensed Product**" means a TCR-based therapy, preventative treatment, or diagnostic for humans that (a) contains or comprises Primary TCR alpha/beta T Cells, (b) is directed to an Affini-T Clinical Target with respect to which an Exclusive Option has been exercised, and (c) is derived from *ex vivo* application of a Metagenomi Reagent.

1.62 "**Executive Officers**" means the [***], or a designee thereof.

1.63 "**Existing RSA**" is defined in the Recitals.

1.64 "**Extended Term**" is defined in Section 12.1.

1.65 "**FCPA**" is defined in Section 4.3.2.

1.66 "**FDA**" means the United States Food and Drug Administration, or any successor agency or authority thereto.

1.67 "**FDCA**" means the United States Federal Food, Drug, and Cosmetic Act, as amended.

1.68 "**Field**" means collectively or individually, as applicable, the Exclusive Field and the Non-Exclusive Field.

1.69 "**Firewalls**" means (a) with respect to Metagenomi, effective walls and screens (whether technical or physical) established between personnel working on Metagenomi Research Activities, on the one hand, and personnel performing any research, development, manufacturing or commercialization of any therapeutic, diagnostic or preventative product directed to an Affini-T Clinical Target in the Exclusive Field on behalf of the CoC Affiliate or engaging in a Competing Business ("**Competing Activities**"), on the other hand, to ensure that no nonpublic information, materials (such as lab notebooks, document management systems or other documented or memorialized Know-How) or non-personnel resources relating to any Affini-T Clinical Target or Licensed Product in the Exclusive Field, or any information, materials or non-personnel resources relating to the Commercial License, or to Affini-T IP, are accessible by Metagenomi (or CoC Affiliate) personnel performing Competing Activities. Notwithstanding the foregoing, Metagenomi personnel that manage or supervise multiple programs at Metagenomi will not be subject to the Firewall themselves; provided that, Metagenomi shall keep all laboratory notebooks, information, materials and records of Metagenomi Research Activities separately from the other laboratory notebooks, information, materials and records of any Competing Activities and shall ensure that any such manager or supervisor personnel is obligated to segregate the information between Metagenomi Research Activities and Competing Activities (e.g. have such information saved or located separately and cannot be viewed at the same time); and (b) with respect to Affini-T, effective walls and screens (whether technical or physical) established between personnel working on any Licensed Product, on the one hand, and personnel of a Competing Acquiror, on the other hand, to ensure that no nonpublic information, materials (such as lab notebooks, document management systems or other documented or memorialized Know-How) or non-personnel resources relating to any Licensed Product, or any information, materials or non-personnel resources relating to the Commercial License, or to Metagenomi IP, are accessible by Competing Acquiror personnel. Notwithstanding the foregoing, Competing Acquiror personnel that manage or supervise multiple programs at Competing Acquiror and

Affini-T will not be subject to the Firewall themselves; provided that, Affini-T shall keep all laboratory notebooks, information, materials and records of Licensed Products separately from the other laboratory notebooks, information, materials and records of the Competing Acquiror and shall ensure that any such manager or supervisor personnel is obligated to segregate the information between Licensed Product and those of the Competing Acquiror (e.g. have such information saved or located separately and cannot be viewed at the same time). "**Firewall**," when used as a verb, means to implement Firewalls.

1.70 "**First Commercial Sale**" means, with respect to a Licensed Product in any country in the Territory, the date of the first sale, transfer or disposition by Affini-T, an Affiliate or Sublicensee to a Third Party in that country after Marketing Authorization for such Licensed Product has been received in that country; provided, that, the following shall not constitute a First Commercial Sale: (a) any sale, transfer or disposition of a Licensed Product at no more than a de minimis charge for academic research, preclinical, clinical, or regulatory purposes; (b) any sale, transfer or disposition of a Licensed Product in connection with any patient assistance programs or for a bona fide charitable purpose, including compassionate use or "named patient sales" or to physicians or hospitals for promotional purposes (including free samples to a level and in an amount which is customary in the industry or which is reasonably proportional to the market for such Licensed Product); or (c) any sale, transfer or disposition of a Licensed Product for use in Clinical Trials, pre-clinical studies or other research or Development activities.

1.71 "**Force Majeure**" means any occurrence beyond the reasonable control of a Party that prevents or substantially interferes with the performance by such Party of any of its obligations hereunder, including by reason of any act of God, flood, fire, explosion, earthquake, casualty or accident, pandemic, epidemic or other health crisis, or war, revolution, civil commotion, act of terrorism, blockage or embargo, or any injunction, law, order, proclamation, regulation, ordinance, demand or requirement of any government or of any subdivision, authority or representative of any such government.

1.72 "**Gene Edits**" means *ex vivo* gene edits.

1.73 "**Good Clinical Practices**" or "**GCP**" means all applicable current Good Clinical Practice standards for the design, conduct, performance, monitoring, auditing, recording, analysis and reporting of Clinical Trials, including, as applicable, (a) as set forth in the ICH, E6 and any other guidelines for good clinical practice for trials on medicinal products in the Territory, (b) the Declaration of Helsinki (2004) as last amended at the 52nd World Medical Association in October 2000 and any further amendments or clarifications thereto, (c) U.S. Code of Federal Regulations Title 21, Parts 50, 54, 56, 312 and 314, as may be amended from time to time, and (d) the equivalent Applicable Laws in any relevant country, each as may be amended and applicable from time to time and in each case ((a)-(d)), that provide for, among other things, assurance that the clinical data and reported results are credible and accurate and protect the rights, integrity, and confidentiality of trial subjects.

1.74 "**Good Laboratory Practice**" or "**GLP**" means the then-current standards for laboratory activities for pharmaceuticals, as set forth in the FDA's Good Laboratory Practice regulations as defined in 21 C.F.R. Part 58 or the Good Laboratory Practice principles of the Organization for Economic Co-Operation and Development ("**OECD**"), and such standards of good laboratory practice as are required by the European Union and other organizations and governmental agencies in countries in which a Licensed Product is intended to be sold, to the extent such standards are not less stringent than the United States Good Laboratory Practice.

1.75 "**Good Manufacturing Practice**" or "**GMP**" means all applicable current Good Manufacturing Practices including, as applicable: (a) the principles detailed in the US Current Good Manufacturing Practices, 21 C.F.R. Parts 4, 210, 211, 601, 610 and 820; (b) European Directive 2003/94/EC and Eudralex 4; (c) the principles detailed in the WHO TRS 986 Annex 2, TRS 961 Annex 6, and TRS 957 Annex 2, and TRS 99 Annex 2; (d) ICH Q7 guidelines; and (e) the equivalent Applicable Laws in any relevant country, each as may be amended and applicable from time to time.

1.76 "**Good Research Practices**" or "**GRP**" means all applicable current Good Research Practices including, as applicable, (a) the Research Quality Association (RQA), 2014, Quality in Research Guidelines for Working in Non-Regulated Research, (b) the World Health Organization (WHO) Quality Practices in Basic Biomedical Research Guidelines, and (c) the equivalent Applicable Laws if any, in any relevant country.

1.77 "**Governance Term**" is defined in Section 3.1.

1.78 "**Government Official**" means: (a) any officer or employee of: (i) a government, or any department or agency thereof; (ii) a government-owned or controlled company, institution, or other entity, including a government-owned hospital or university; or (iii) a public international organization (such as the United Nations, the International Monetary Fund, the International Committee of the Red Cross, and the World Health Organization), or any department or agency thereof; (b) any political party or party official or candidate for public or political party office; and (c) any person acting in an official capacity on behalf of any of the foregoing.

1.79 "**Governmental Authority**" means any multi-national, federal, state, local, municipal, provincial or other governmental authority of any nature (including any governmental division, prefecture, subdivision, department, agency, bureau, branch, office, commission, council, court or other tribunal).

1.80 "**[***]**" is defined in Section 8.3.1.

1.81 "**ICH**" is defined in Section 4.3.1.

1.82 "**IND**" means (a) an Investigational New Drug Application, as defined in the FDCA and regulations promulgated thereunder, or any successor application or procedure required to initiate clinical testing of a Licensed Product in humans in the United States; (b) a counterpart of an Investigational New Drug Application that is required in any other country or region in the Territory before beginning clinical testing of any Licensed Product in humans in such country or region; and (c) all supplements and amendments to any of the foregoing.

1.83 "**Indemnified Party**" is defined in Section 14.3.

1.84 "**Indemnifying Party**" is defined in Section 14.3.

1.85 “**Infringement**” is defined in Section 11.2.1.

1.86 “**Infringement Notice**” is defined in Section 11.2.1.

1.87 “**Infringement Response**” is defined in Section 11.2.2.

1.88 “**Initial Term**” is defined in Section 12.1.

1.89 “**Initial RSA**” is defined in Section 8.1.1.

1.90 “**iPSC**” means induced pluripotent stem cells.

1.91 “**JSC**” is defined in Section 3.1.

1.92 “**Know-How**” means, collectively, inventions, discoveries, improvements, trade secrets and proprietary methods, whether or not patentable, including: (a) methods of manufacture or use of, and structural and functional information pertaining to, chemical compounds and materials and (b) compositions of matter, data, formulations, processes, techniques, cell differentiation techniques and protocols, cell growth techniques and protocols, cell handling, cell assays, know-how and results, including preclinical, pharmaceutical, toxicological and clinical data.

1.93 “**Letter of Authorization**” means a written statement by the DMF holder permitting a Regulatory Authority to refer information in the DMF in support of another party’s submission, as referenced at 21 C.F.R. §314.420(d).

1.94 “**Licensed Product**” means an Exclusively Licensed Product or a Non-Exclusively Licensed Product.

1.95 “**Losses**” is defined in Section 14.1.

1.96 “**Major European Market**” means each of United Kingdom, Germany, France, Spain, and Italy.

1.97 “**Manufacture**” or “**Manufactured**” or “**Manufacturing**” means any and all activities related to the production, manufacture, formulation, finishing, packaging, labeling, shipping and holding of any Licensed Product, or other product or therapy, or any component, intermediary or precursor thereof, and including process development, process qualification and validation, scale-up, pre-clinical, non-clinical, clinical and commercial manufacture, characterization, quality assurance and quality control, including testing.

1.98 “**Marketing Authorization**” means, with respect to a Licensed Product, the Regulatory Approval required by Applicable Laws to sell such Licensed Product in a country or region in the Territory. For purposes of clarity, (a) “**Marketing Authorization**” in the United States means final approval of a BLA permitting marketing of such Licensed Product in interstate commerce in the United States; (b) “**Marketing Authorization**” in the European Union means marketing authorization for such Licensed Product granted either by an individual country or the EMA; (c) “**Marketing Authorization**” in the United Kingdom means marketing authorization for such Licensed Product granted by the UK Medicines and Healthcare products Regulatory Agency and (d) “**Marketing Authorization**” in other countries means marketing authorization for such Licensed Product granted by the competent authority of such other country.

1.99 “**Metagenomi**” is defined in the Preamble.

1.100 “**Metagenomi Agreement IP**” is defined in Section 10.2.1(a).

1.101 “**Metagenomi Agreement Know-How**” is defined in Section 10.2.1(a).

1.102 “**Metagenomi Agreement Patent Rights**” is defined in Section 10.2.1(a)(ii).

1.103 “**Metagenomi Background IP**” means all Patent Rights and Know-How Controlled by Metagenomi or its Affiliates on or prior to the Effective Date, or that Metagenomi comes to Control outside of this Agreement during the Term, that (a) Cover any Metagenomi Reagent, or Gene Edit using Metagenomi Reagents, (b) are otherwise necessary or useful to make, use, sell, import or practice any Metagenomi Reagents, or Gene Edit using Metagenomi Reagents, or (c) are otherwise necessary to make, use, sell, import or practice, any Licensed Product; provided that in the case of this clause (c) if the applicable Patent Rights or Know-How are not owned by Metagenomi or its Affiliates, then such Patent Rights or Know-How shall only be included as Metagenomi Background IP in accordance with Section 10.1.

1.104 “**Metagenomi Indemnitees**” is defined in Section 14.1.

1.105 “**Metagenomi Indemnity Claims**” is defined in Section 14.1.

1.106 “**Metagenomi In-Licensed IP**” means Patent Rights or Know-How Metagenomi in-licenses after the Effective Date that are necessary to make, use, sell import or practice any Licensed Product.

1.107 “**Metagenomi IP**” means Metagenomi Background IP and Metagenomi Agreement IP.

1.108 “**Metagenomi Patent Rights**” means all (a) Metagenomi Agreement Patent Rights and (b) Patents Rights that are included within Metagenomi Background IP.

1.109 “**Metagenomi Reagent**” means each of (a) [***], or (b) [***] , and (c) [***] For clarity, Metagenomi Reagents shall include [***].

1.110 “**Metagenomi Reagent Improvement**” means [***].

1.111 “**Metagenomi Research Activities**” means activities undertaken by or on behalf of Metagenomi under a Research Plan to identify, develop and optimize Metagenomi Reagents to implement Gene Edits for use in developing and commercializing gene edited TCR-based products.

1.112 “**Milestone**” means the earlier of the date upon which (a) an Affini-T-Relevant DMF that has been approved by the JSC is submitted to the FDA, or (b) an IND that references a MG DMF is accepted by the FDA as evidenced by no objection by the FDA within [***]after the date of submission of such IND (or any amended submission if such amendment restarted the applicable [***]period).

1.113 “**Milestone RSA**” is defined in Section 8.1.2.

1.114 “**MFN Waiver**” is defined in the Recitals.

1.115 “**Net Sales**” means [***]

[***]

1.116 “**New Affiliate**” means a Third Party that becomes an Affiliate of a Party after the Effective Date through or after a Change of Control of such Party, other than (i) such Party, or (ii) any Affiliates of such Party immediately before the consummation of such Change of Control.

1.117 “**Non-Exclusive Field**” means the treatment, prevention or diagnosis of any human cancer using products with engineered Other Immune Cells.

1.118 “**Non-Exclusive License**” is defined in Section 2.1.2(c).

1.119 “**Non-Exclusive Option**” is defined in Section 2.1.2.

1.120 “**Non-Exclusively Licensed Product**” means a TCR-based therapy, preventative treatment, or diagnostic for humans that (a) contains or comprises Other Immune Cells, (b) is directed to an Affini-T Clinical Target with respect to which a Non-Exclusive Option has been exercised, and (c) is derived from ex-vivo application of a Metagenomi Reagent.

1.121 “**OECD**” is defined in Section 1.74.

1.122 “**Option**” is defined in Section 2.1.2.

1.123 “**Option Exercise Fee**” is defined in Section 8.2.

1.124 “**Option Period**” means, with respect to a given Affini-T Clinical Target in a given Field, the time period beginning on the Effective Date and ending at the earlier of: (a) the end of the Initial Term, or if applicable, the Extended Term or (b) ninety (90) days following the date on which Affini-T files an IND for a Licensed Product directed to such Affini-T Clinical Target. For clarity, there are two (2) Option Periods per Affini-T Clinical Target: one (1) for the Exclusive Option and one (1) for the Non-Exclusive Option.

1.125 “**Other Components**” means any (i) [***], or (ii) [***].

1.126 “**Other Immune Cells**” means (a) TCR natural killer (NK) cells derived from iPSC immune cells or (b) TCR T cells derived from donor-derived or iPSC immune cells.

1.127 “**Partial Termination**” is defined in Section 12.2.1 and Section 12.2.2.

1.128 “**Party**” and “**Parties**” are defined in the Preamble.

1.129 "**Patent Costs**" means the costs and expenses incurred by a Party (including reasonable external attorneys' fees) in the conduct of Patent Prosecution or Patent Defense activities, as the case may be, for which that Party is responsible in accordance with this Agreement.

1.130 "**Patent Defense**" means the responsibility for defending any interference, declaratory judgment action, opposition, derivation, *inter partes* review, post-grant review, reexamination, reissue, or other Third Party challenge or similar proceeding alleging the invalidity, unenforceability or non-infringement of any Patent Rights.

1.131 "**Patent Prosecution**" means the responsibility for preparing, filing and prosecuting patent applications (of all types) for any Patent Rights, and for maintaining any Patent Rights.

1.132 "**Patent Rights**" means the rights and interests in and to issued patents and pending patent applications (which, for purposes of this Agreement, include certificates of invention, applications for certificates of invention and priority rights) in any country or region, including all provisional applications, substitutions, continuations, continuations-in-part, divisions, renewals, all letters patent granted thereon, and all reissues, re-examinations and extensions thereof, and all foreign counterparts of any of the foregoing.

1.133 "**PDF**" is defined in Section 15.5.

1.134 "**Person**" means an individual, sole proprietorship, partnership, limited partnership, limited liability partnership, corporation, limited liability company, business trust, joint stock company, trust, incorporated association, joint venture or similar entity or organization, including a government or political subdivision, department or agency of a government.

1.135 "**Pivotal Trial**" means, with respect to any Licensed Product, a single randomized, placebo or active controlled human clinical trial of a Licensed Product on sufficient numbers of patients that is designed to demonstrate statistically that such Licensed Product is safe and efficacious for its intended use, to evaluate the risk-benefit relationship of such Licensed Product, and to define warnings, precautions and adverse reactions that are associated with such Licensed Product in the dosage range to be prescribed, as described in 21 C.F.R. §312.21(c) or corresponding foreign regulations, and that is intended to support a complete application for Regulatory Approval of such Licensed Product.

1.136 "**Plan Budget**" is defined in Section 4.1.

1.137 [***]

1.138 "**Product Information**" is defined in Section 1.41.

1.139 "**Project Leader**" is defined in Section 3.7.

1.140 “**Proprietary Materials**” means (a) any tangible chemical, biological or physical materials that are Controlled and furnished by the Transferring Party to the Recipient Party, whether or not specifically designated as proprietary by the Transferring Party, or (b) any tangible chemical, biological or physical materials that are generated, conceived or reduced to practice in the conduct of the Research Plan; provided, that “Proprietary Materials” does not include any Licensed Product or Metagenomi Reagents.

1.141 “**Quality Agreement**” means a document developed, approved, and updated by the Parties that sets forth the quality expectations, responsibilities, rights (including, as applicable and agreed upon, audit requirements) and requirements relating to the Manufacture and supply of Metagenomi Reagents, as executed hereunder, or relating to supply of Metagenomi Reagents for Clinical Trials or Commercialization.

1.142 “**Receiving Party**” is defined in Section 1.41.

1.143 “**Recipient Party**” is defined in Section 9.4.

1.144 “**Recovery**” is defined in Section 11.2.5.

1.145 “**Regulatory Approval**” means, with respect to any country or region in the Territory, any approval, establishment license, registration or authorization of any Regulatory Authority required for the Manufacture, use, storage, importation, exportation, transport or distribution of any Licensed Product for use in such country or region.

1.146 “**Regulatory Authority**” means any national, international, regional, state or local regulatory agency, department, bureau, commission, council or other governmental entity with authority over the distribution, importation, exportation, Manufacture, use, storage, transport, clinical testing, pricing, sale or reimbursement of any Licensed Product in the Territory.

1.147 “**Regulatory Filing**” means, collectively: (a) any IND, CTA, Drug Approval Application, establishment license application, DMF, application for designation as an “Orphan Drug” under the Orphan Drug Act, for “Fast Track” status under Section 506 of the FDCA (21 U.S.C. § 356) or for a Special Protocol Assessment under Section 505(b)(4)(B) and (C) of the FDCA (21 U.S.C. § 355(b)(4)(B)) and all other similar filings (including counterparts of any of the foregoing in any country or region in the Territory); (b) all supplements and amendments to any of the foregoing; and (c) all data and other information contained in, and correspondence relating to, any of the foregoing.

1.148 “**Regulatory Representative**” is defined in Section 5.5.3.

1.149 “**Replacement Notice Response**” is defined in Section 2.1.2(e).

1.150 “**Replacement Notice**” is defined in Section 2.1.2(e).

1.151 “**Replacement Right**” is defined in Section 2.1.2(e).

1.152 “**Requesting Party**” is defined in Section 9.2.1.

1.153 “**Research Costs**” is defined in Section 4.2.3.

1.154 “**Research Plan**” is defined in Section 4.1.

1.155 “**Research Plan Completion**” is defined in Section 4.2.1(b).

1.156 “**Retention Period**” is defined in Section 8.4.4.

1.157 “**Reviewing Party**” is defined in Section 9.2.1.

1.158 “**Royalty Term**” means with respect to a Licensed Product, on a country-by-country basis, the period beginning on the date of First Commercial Sale of such Licensed Product in such country and ending on the later of (a) date of expiration or invalidation of the last to expire Valid Claim of a Metagenomi Patent Right in such country that Covers [***] in such country that is included within the Commercial License, (b) [***] after the date of First Commercial Sale of such Licensed Product in such country, and (c) expiration of all regulatory exclusivities for such Licensed Product in such country.

1.159 “**Sublicenseable Metagenomi In-Licensed IP**” is defined in Section 10.1.

1.160 “**Sublicensee**” means any Third Party to which Affini-T or its Affiliate grants a sublicense under the Commercial License.

1.161 “**Supply Failure**” is defined in Section 2.1.2(d).

1.162 “**TCR**” means T-cell receptor.

1.163 “**Term**” is defined in Section 12.1.

1.164 “**Territory**” means every country and territory in the world.

1.165 “**Third Party**” means a Person other than Affini-T and Metagenomi and their respective Affiliates.

1.166 “**Third Party License**” is defined in Section 8.4.2(b).

1.167 “**Third Party Payments**” is defined in Section 8.4.2(b).

1.168 “**Transferring Party**” is defined in Section 9.4.

1.169 “**United States**” or “**U.S.**” means the United States of America and its territories and possessions.

1.170 “**Upstream Agreement**” is defined in Section 10.1.

1.171 “**Valid Claim**” means either (a) a claim of an issued and unexpired patent that has not been revoked or found to be unpatentable, invalid or unenforceable by a court or other government agency of competent jurisdiction, or (b) a claim of a pending patent application, which claim was filed in good faith, has not been pending for more than [***] and has not been abandoned or finally disallowed without the possibility of appeal or refiling of such application.

2. GRANT OF LICENSES; EXCLUSIVITY.

2.1 **Grant of Licenses to Affini-T**.

2.1.1 Research License. Metagenomi hereby grants Affini-T and its Affiliates a non-exclusive, fully paid-up, royalty-free, worldwide license, with the right to grant sublicenses, under, in and to Metagenomi IP for Affini-T to conduct research and Development activities involving Metagenomi Reagents and Licensed Products directed to the applicable Affini-T Clinical Target in each Field prior to Option exercise and expiration of the Option Period (on a Field-by-Field basis) for purposes of determining whether Affini-T will exercise either or both of its Options with respect to any such Affini-T Clinical Target(s).

2.1.2 Commercial License.

(a) On an Affini-T Clinical Target-by-Affini-T Clinical Target basis, Metagenomi hereby grants Affini-T (i) an exclusive option to obtain an Exclusive License ("**Exclusive Option**") and (ii) a non-exclusive option to obtain a Non-Exclusive License ("**Non-Exclusive Option**", and individually or collectively, as applicable, with the Exclusive Option, "**Option**"), in each case of (i) and (ii), with respect to each Affini-T Clinical Target. Affini-T may, at its sole discretion, exercise one or both of its Options (i.e., on a Field-by-Field basis) with respect to an Affini-T Clinical Target by providing written notice to Metagenomi during the Option Period applicable to such Affini-T Clinical Target and such Field by identifying the applicable Affini-T Clinical Target and stating whether an Exclusive License and/or a Non-Exclusive License is being taken with respect to such Affini-T Clinical Target. Affini-T may exercise its Option for an Exclusive License or Non-Exclusive License with respect to a given Affini-T Clinical Target at the same time or at different times; provided, that any such Option exercise must occurring during the applicable Option Period with respect to such Affini-T Clinical Target and Field. During the Term, Metagenomi shall not license or otherwise dispose of any Metagenomi IP (including undertaking any such actions that would result in any given Patent Rights and Know-How no longer qualifying as Controlled by Metagenomi only as result of such actions) in any manner that is or could be inconsistent with the Option rights granted to Affini-T. Upon the expiration of the Option Period for an Affini-T Clinical Target, if Affini-T has not exercised either Option with respect to such Affini-T Clinical Target, then such Affini-T Clinical Target shall cease to be an Affini-T Clinical Target.

(b) Upon Affini-T's exercise of an Exclusive Option with respect to a given Affini-T Clinical Target, Metagenomi shall grant, and hereby does grant, to Affini-T and its Affiliates, without further action from either Party an exclusive (even as to Metagenomi), royalty-bearing (as set forth in Section 8.4), sublicensable (through multiple tiers), worldwide license under all applicable Metagenomi IP to research, Develop, Manufacture or have Manufactured (including the Manufacture of Metagenomi Reagents, subject to Section 2.1.2(d) and, as applicable, the Development Supply Agreement and Commercial Supply Agreement), use, Commercialize and otherwise fully exploit any TCR-based therapy, preventative treatment, or diagnostic for humans that (A) is directed to such Affini-T Clinical Target, (B) contains or comprises Primary TCR alpha/beta T Cells, and (C) is derived from *ex vivo* application of a Metagenomi Reagent (the "**Exclusive License**").

(c) Upon Affini-T's exercise of a Non-Exclusive Option with respect to a given Affini-T Clinical Target, Metagenomi shall grant, and hereby does grant, to Affini-T and its Affiliates, without further action from either Party a non-exclusive, royalty-bearing (as set forth in Section 8.4), sublicensable (through multiple tiers), worldwide license under all applicable Metagenomi IP to research, Develop, Manufacture or have Manufactured (including the Manufacture of Metagenomi Reagents, subject to Section 2.1.2(d) and, as applicable, the Development Supply Agreement and Commercial Supply Agreement), use, Commercialize and otherwise fully exploit any TCR-based therapy, preventative treatment, or diagnostic for humans that (A) is directed to such Affini-T Clinical Target, (B) contains or comprises Other Immune Cells, and (C) is derived from *ex-vivo* application of a Metagenomi Reagent (the "**Non-Exclusive License**").

Notwithstanding the foregoing, the Parties acknowledge and agree that the nature of the Licensed Products is such that Affini-T may inadvertently contravene the Commercial License granted by Metagenomi to Affini-T under Sections 2.1.2(b) or 2.1.2(c) by way of an off-target effect whereby a given Licensed Product or Metagenomi Reagent interacts with a target (that it was not intentionally directed against) other than an Affini-T Clinical Target and that any such unintentional contravention shall not constitute a breach of this Agreement nor give rise to any infringement claims by Metagenomi related to such Licensed Product(s).

(d) Metagenomi shall supply to Affini-T its requirements of Metagenomi Reagents in accordance with the Development Supply Agreement and the Commercial Supply Agreement, as applicable; [***]

(e) [***], Affini-T shall be entitled to [***] Affini-T Clinical Targets with respect to which Affini-T has not exercised its Option ("**Replacement Right**") by providing a written notice to Metagenomi ("**Replacement Notice**"). Affini-T will be entitled to exercise its Replacement Right no more than [***]period. Within[***] after receipt of a Replacement Notice, Metagenomi shall notify Affini-T in writing ("**Replacement Notice Response**") whether, as of the date of the Replacement Notice, the proposed target in the Replacement Notice is Available (as defined below) for an Exclusive License or a Non-Exclusive License and any other limitations that would apply if Affini-T were to add such target as an Affini-T Clinical Target hereunder and subsequently exercise its Option with respect to such target. If the Replacement Notice Response provides that the proposed target is not Available for an Exclusive License or Non-Exclusive License, then Affini-T will be free to provide a Replacement Notice for another proposed target. If the proposed target is Available for an Exclusive License or a Non-Exclusive License, then Affini-T shall have [***] from its receipt of a Replacement Notice Response to determine whether it desires to have such target added as an Affini-T Clinical Target hereunder, by providing a written response to Metagenomi identifying the Affini-T Clinical Target to be replaced and affirming the addition of such target as an Affini-T Clinical Target; provided that if such target is only Available for a Non-Exclusive License (and not Available for an Exclusive License), then Affini-T acknowledges and agrees that by affirming the addition of such target Affini-T will only be able to exercise the Non-Exclusive Option for such target. If such [***]period expires without a response from Affini-T, or Affini-T provides a written response that it does not desire to add such target, then such target shall not become an Affini-T Clinical Target. As used herein "**Available**" means that (i) the proposed target [***], (ii) the proposed target [***], and (iii) the proposed target [***].

2.1.3 Retention of Rights. Notwithstanding the license granted in Section 2.1.1, Metagenomi retains the rights under the Metagenomi Agreement Patent Rights as necessary to conduct its Development and Manufacturing responsibilities with respect to Licensed Products hereunder in accordance with this Agreement (including any Metagenomi Research Activities).

2.1.4 Rights of Reference. Solely for the purpose of obtaining or maintaining Regulatory Approval for a Licensed Product, Metagenomi hereby grants Affini-T the right to cross-reference Metagenomi's or its Affiliate's Regulatory Filings and Regulatory Approvals anywhere in the world to the extent such Regulatory Filings and Regulatory Approvals relate to Licensed Products (or components thereof) and are Controlled by Metagenomi or its Affiliates, and to access any data and Know-How therein and use such data and Know-How in connection with the performance of Affini-T's obligations and exercise of Affini-T rights under this Agreement. In furtherance of the foregoing, Metagenomi shall (or shall cause an applicable Affiliate to) provide a signed statement to this effect, if requested by Affini-T, in accordance with U.S. 21 C.F.R. §314.50(g)(3) or the equivalent as required in any country or region of the Territory, or otherwise provide appropriate notification of such right of Affini-T to the applicable Regulatory Authority.

2.2 **Exclusivity**.

2.2.1 Affini-T Clinical Targets Pre-Option. On an Affini-T Clinical Target-by-Affini-T Clinical Target basis, until the earlier of (a) exercise of an Exclusive Option for such Affini-T Clinical Target; (b) Affini-T's written notice to Metagenomi that it does not desire to exercise its Exclusive Option for such Affini-T Clinical Target; and (c) expiration of the Option Period with respect to the Exclusive Option for such Affini-T Clinical Target; Metagenomi shall not, and shall ensure that none of its Affiliates, (i) engage in the discovery, research, Development, Manufacture, Commercialization or other exploitation of any therapeutic, diagnostic or preventative *ex vivo* gene edited product directed to such Affini-T Clinical Target in the Exclusive Field or (ii) work with any Third Party, including through a grant of any (sub)license to any Third Party, to discover, research, Develop, Manufacture, Commercialize or otherwise exploit any therapeutic, diagnostic or preventative *ex vivo* gene edited product directed to or associated with such Affini-T Clinical Target in the Exclusive Field.

2.2.2 Affini-T Clinical Targets Post-Option. Upon exercise of an Exclusive Option with respect to a given Affini-T Clinical Target, except as necessary to perform its obligations hereunder, Metagenomi shall not, and shall ensure that none of its Affiliates, (i) engage in the discovery, research, Development, Manufacture, Commercialization or other exploitation of any therapeutic, diagnostic or preventative *ex vivo* gene edited product directed to such Affini-T Clinical Target in the Exclusive Field or (ii) work with any Third Party, including through a grant of any (sub)license to any Third Party, to discover, research, Develop, Manufacture, Commercialize or otherwise exploit any therapeutic, diagnostic or preventative *ex vivo* gene edited product directed to or associated with such Affini-T Clinical Target in the Exclusive Field.

2.2.3 Change of Control.

(a) In the event that Metagenomi or its Affiliate acquires or is acquired by a Third Party (by merger, sale, consolidation, reorganization or other change of control (including a Change of Control)), such acquired Party/acquiring Third Party (the "**CoC Affiliate**") shall not be deemed to be in violation of Section 2.2.1 or Section 2.2.2 if such CoC Affiliate (a) covenants in writing to Affini-T that from and after the closing of such acquisition, it will not use, reference or otherwise exploit, directly or indirectly, any (i) Affini-T IP (or other Confidential Information of Affini-T, including Product Information) that is provided by Affini-T under this Agreement for any purpose, or (ii) Metagenomi Agreement IP for any purpose that would result in a breach of Section 2.2.2; (b) establishes and enforces, along with Metagenomi, Firewalls for as long as Metagenomi performs Metagenomi Research Activities; and (c) independently discovers, researches, Develops, Manufactures or Commercializes any therapeutic, diagnostic or preventative product directed to an Affini-T Clinical Target in the Exclusive Field without any aid, use or other exploitation of any Affini-T IP (or other Confidential Information of Affini-T, including Product Information) or Metagenomi Agreement IP.

(b) In the event that Affini-T or its Affiliate is acquired by a Competing Acquiror (by merger, sale, consolidation, reorganization or other change of control (including a Change of Control)), Affini-T shall cause such Competing Acquiror to establish and enforce Firewalls during the Term.

2.3 **Grant of Licenses to Metagenomi**. For so long as any Research Plan is being performed, Affini-T hereby grants Metagenomi and its Affiliates a non-exclusive, fully paid-up, royalty-free, worldwide license, with the right to grant sublicenses, under, in and to Affini-T IP solely for Metagenomi to perform its Development obligations under, and in accordance with, each Research Plan.

2.4 **Potential Co-Development**. The Parties will discuss the potential for co-development and co-commercialization of one or more TCR-based therapeutic products that embody *ex vivo* engineered TCR immune cells made using Metagenomi Reagents based Gene Edits and (a) are directed to targets other than the Affini-T Clinical Targets in the Exclusive Field or (b) are directed to any targets, including Affini-T Clinical Targets, in the Non-Exclusive Field. Any such co-development and co-commercialization relationship would be governed by a separate co-development/co-commercialization agreement to be negotiated and agreed to by the Parties in each Party's sole and absolute discretion. For clarity, neither Party is obligated to co-develop such other products or enter into any such further agreement.

3. GOVERNANCE

3.1 **Establishment of Joint Steering Committee; Governance Term**. Within [***] after the Effective Date, Metagenomi and Affini-T shall establish a joint steering committee (the "**JSC**"). The JSC shall have and perform the responsibilities set forth in this Article 3; provided, that, the JSC shall conduct its activities in good faith and shall not have any authority to amend this Agreement without the mutual written agreement of both Parties. Unless otherwise agreed by the Parties, the term for the JSC shall commence as of the date upon which it is established and continue until the earlier of (a) [***] or (b) [***] ("**Governance Term**"); provided that, the Governance Term with respect to any given Licensed Product will end upon the initiation of a Pivotal Trial with respect to such Licensed Product. From and after the expiration of the Governance Term, this Article 3 shall have no further force or effect, including on a Licensed Product-by-Licensed Product basis in accordance with the proviso in the foregoing sentence.

3.2 **Membership**. Each Party shall designate in writing, in its sole discretion, three (3) representatives to represent it on the JSC. The JSC may change its size from time to time by mutual written consent of the Parties (which consent may be withheld by either Party at its sole discretion) and each Party may replace its representatives at any time upon written notice to the other Party. Each Party shall appoint one or more of its representatives to serve as a co-chairperson of the JSC.

3.3 **Meetings**.

3.3.1 Schedule of Meetings; Agenda. [***], without limitation, the planning needs for each Research Plan and the responsibilities of the JSC. Special meetings of the JSC may be convened by any member upon [***] written notice to the other members; provided, that (a) notice of any special meeting may be waived at any time, either before or after the special meeting and (b) attendance of any member at a special meeting shall constitute a valid waiver of notice of such member. Meetings of the JSC may be held in person or by teleconference or videoconference; provided, that, any meetings held in person shall alternate between the respective offices of the Parties or be held at other locations as may be mutually agreeable to the JSC members. Each Party may invite representatives, presenters or experts of such Party or of its Affiliates as it determines is appropriate, subject to the other Party consenting to such attendance, which consent will not be unreasonably withheld, conditioned or delayed; provided, that any such guest attendees (i) shall not vote or otherwise participate in the decision-making process of the JSC and (ii) are bound by obligations of confidentiality and non-disclosure consistent with Article 9.

3.3.2 Voting; Decisions. At each JSC meeting, the representatives of a Party shall have one (1) collective vote on all matters before the JSC at such meeting. All decisions of the JSC shall be made by unanimous vote, subject to Section 3.5. The JSC may also act by written consent signed by at least [***] designated by each Party. Whenever any action by the JSC is called for hereunder during a time period in which the JSC is not scheduled to meet, the Parties may call a special meeting or circulate a written consent to the JSC in order to enable the JSC to address, and if agreed, take, the action in the requested time period.

3.3.3 Meeting Minutes. With the sole exception of specific items of any JSC meeting minutes to which the JSC cannot agree and which are escalated as provided in Section 3.5, definitive minutes of all meetings of the JSC shall be finalized [***] after the meeting to which the minutes pertain, as follows: (a) within [***] after each JSC meeting, Affini-T's Alliance Manager shall prepare and distribute to all members of the JSC draft minutes of the meeting; (b) the JSC members shall then [***] after receiving such draft minutes to provide comments thereon to the JSC co-chairpersons; (c) upon the expiration of such [***] period, the co-chairpersons shall have an [***] to finalize the minutes; (d) if no comments are received by the JSC co-chairpersons within the [***], the minutes shall be deemed final; and (e) the JSC members shall each sign and date the final minutes. The signature of the JSC members upon the final minutes shall indicate each Party's assent to the minutes. If at any time during the preparation and finalization of JSC meeting minutes, the Parties do not agree on any issue with respect to the minutes, such issue shall be resolved by the Executive Officers pursuant to Section 3.5. The decision resulting from this escalation process shall be recorded by the co-chairpersons in amended finalized minutes for said meeting and if no resolution can be reached than the disagreement shall be reflected in the minutes accordingly.

3.3.4 Expenses. Metagenomi and Affini-T shall each bear all expenses of their respective JSC representatives related to their participation on the JSC and attendance at JSC meetings.

3.4 **Responsibilities**. The JSC responsibilities will include:

3.4.1 overseeing initiation of, progress of, reviewing, approving, amending and updating (as appropriate), each Research Plan;

3.4.2 discussing Metagenomi's performance of the Metagenomi Research Activities;

3.4.3 reviewing and discussing Metagenomi's supply abilities with respect to each Metagenomi Reagent to be utilized in a Licensed Product;

3.4.4 approving each Affini-T-Relevant DMF for submission; and

3.4.5 establishing or abolishing other such working groups or subcommittees, as needed to further the purposes of this Agreement, as mutually agreed by the Parties in writing at the JSC; provided that each such working group or subcommittee shall report to the JSC.

3.5 **Dispute Resolution**.

3.5.1 Generally. The JSC members shall use reasonable efforts in good faith to reach agreement on any and all matters within its responsibility. If, despite such reasonable efforts, agreement on a particular matter that is within the responsibility of the JSC cannot be reached by the JSC within[***] after the JSC first meets to consider such matter or such later date as may be mutually acceptable to the Parties (each such matter, a "**Disputed Matter**"), the Parties shall refer such Disputed Matter to the Executive Officers of the Parties who shall promptly initiate discussions in good faith to resolve such Disputed Matter, and if not resolved by the Executive Officers within [***] from the date the Disputed Matter is first referred to the Executive Officers, then, subject to the limitations set forth in Section 3.5.2, the Executive Officer of Affini-T shall have the right to make the final decision on such Disputed Matter, but shall only exercise such right in good faith after full consideration of the positions of both Parties.

3.5.2 Limitations.

(a) Affini-T cannot exercise its final decision making authority to (i) [***]

(b) If any Disputed Matter involves a matter outside of the decision making authority of the JSC, then such Disputed Matter shall be resolved in accordance with Section 15.1 except as otherwise expressly set forth herein.

3.6 **Alliance Managers**. Each Party will appoint an individual designated as the alliance manager ("**Alliance Manager**"). The Alliance Managers will attend each JSC meeting but will not be a member of the JSC and will be the main point of contact for each Party to exchange information and facilitate communication for general matters concerning this Agreement or Research Plans, to provide support to the JSC and such other committees and working groups as the JSC may establish and to coordinate the communication and feedback from each Alliance Manager's organization.

3.7 **Project Leaders**. Each Party will appoint a project leader for each Research Plan (each a "**Project Leader**"). The Project Leaders will be responsible for the day-to-day exchange of information and communication in connection with its assigned Research Plan(s) and will be the first contact person for the other Party for operational and scientific matters with regard to such Research Plan. The Project Leaders will routinely report on the progress of its assigned Research Plan(s) to the JSC.

4. RESEARCH ACTIVITIES

4.1 **Research Plan**.

4.1.1 Initial Research Plan. From time to time during the Term, Affini-T may draft and propose to the JSC and the JSC shall promptly ([***]) upon receipt of such proposal, consider and subject to Section 3.5, approve research plan(s) for Gene Edits describing the applicable Metagenomi Research Activities (each, a "**Research Plan**"). As of the Effective Date, the Parties have agreed to the Research Plan for [***] attached hereto as Schedule 4.1. Each Research Plan will include a description of all Metagenomi Research Activities to be performed thereunder, a budget for the conduct of such Metagenomi Research Activities ("**Plan Budget**"), a timeline for Metagenomi's performance, key milestones and progress/data/discovery reporting requirements, deliverables, one or more success criteria with respect to such Research Plan and the required contents of the final report and data package to be delivered to Affini-T upon completion of the Research Plan (the "**Data Package**").

4.1.2 Quarterly Review of Research Plan. During each Calendar Quarter JSC meeting, the JSC shall review the contents of each Research Plan, progress under each Research Plan and discuss and mutually agree on any amendment or update (as appropriate) for such Research Plan.

4.2 **Conduct of Research Plan**.

4.2.1 Metagenomi Responsibilities.

(a) Metagenomi shall use Commercially Reasonable Efforts to perform the Metagenomi Research Activities and deliver to Affini-T the Metagenomi Reagents (including, as and to the extent applicable, [***] in the quality and amounts provided in the applicable Research Plan and the Data Package in accordance with the timelines set forth in the applicable Research Plan, and to commit such resources (including employees, agents, consultants, facilities, equipment and materials) as are necessary to comply with such diligence obligation. Metagenomi shall use Commercially Reasonable Efforts to perform its obligations under each Research Plan until such Research Plan has been completed or terminated in accordance with the terms of the Agreement.

(b) Without limiting Metagenomi's supply and transfer obligations under Section 4.2.1(a) and the Development Supply Agreement and Quality Agreement, upon Metagenomi's completion of its obligations, including delivery of all deliverables, and achievement of all success criteria (or all success criteria are achieved except for those expressly waived by Affini-T in writing or those that Metagenomi demonstrates to Affini-T's satisfaction that Metagenomi has used Commercially Reasonable Efforts to achieve without success), set forth in a given Research Plan, Metagenomi shall notify Affini-T in writing of such completion and submit to Affini-T the Data Package for such Research Plan (the "**Research Plan Completion**"). Affini-T acknowledges and agrees that Metagenomi is not providing any guarantee that all success criteria in a Research Plan will be met, and Research Plan Completion will be achieved when all work under the Research Plan has been completed and all success criteria has been achieved, except for those success criteria expressly waived by Affini-T in writing or those that are demonstrated to Affini-T's satisfaction have been the subject of Metagenomi's Commercially Reasonable Efforts to achieve without success. Within [***] after Affini-T's receipt of such notice and Data Package, the JSC shall meet to discuss the Data Package. If Affini-T does not believe Research Plan Completion has been achieved, it shall so notify Metagenomi and the Parties will discuss in good faith the status of the activities under the Research Plan. Affini-T may request any reasonable updates or additional information with respect to the Data Package that are reasonably necessary for Affini-T to exercise its rights under this Agreement with respect to the applicable Metagenomi Reagents. If Affini-T notifies Metagenomi that such Data Package contains inaccuracies or lacks necessary information generated under the Research Plan or is otherwise not complete, the Parties shall confer in good faith with respect to any changes or additions recommended by Affini-T, including the performance by Metagenomi of reasonable additional Metagenomi Research Activities that will be reflected in an updated Research Plan.

(c) Metagenomi shall assign such scientific and technical personnel and allocate such other resources as are reasonably necessary for performing the activities as are assigned to it in each Research Plan and shall perform such activities in accordance with all Applicable Laws (including GRPs and GLPs) in each case to the extent applicable to performance of the relevant Research Plan activities by Metagenomi, the terms and conditions of this Agreement, and within generally accepted professional standards. Metagenomi shall be solely responsible for the safety and health of its employees and consultants, and for compliance with all Applicable Laws related to health, safety and the environment, including providing its employees

and consultants with all required information and training concerning any potential hazards involved in performing such activities and any precautionary measures to protect its employees and consultants from any such hazards. Metagenomi shall reasonably train its personnel assigned to perform activities under this Agreement to ensure compliance with each Research Plan and shall ensure that any personnel so assigned shall be capable of professionally and competently performing the activities assigned to Metagenomi in each Research Plan.

(d) Except as set forth below in Article 7, in performing the Metagenomi Research Activities, Metagenomi shall not have the right to subcontract any of such activities without the prior written consent of Affini-T; provided that Metagenomi shall cause its subcontractors to comply with the provisions of this Agreement in connection with such performance. Metagenomi shall execute a formal written agreement with any such permitted subcontractor governing the provision of services by such subcontractor. Each such subcontractor agreement shall (i) require such subcontractor to comply with the terms and conditions of this Agreement (including those provisions governing intellectual property, confidentiality and audit rights) and (ii) prohibit such subcontractor from further subcontracting. Metagenomi's execution of such a subcontractor agreement shall not relieve Metagenomi of any of its obligations under this Agreement. Metagenomi shall remain jointly and severally liable to Affini-T for any performance or non-performance of any such subcontractor, and Metagenomi hereby expressly waives any requirement that Affini-T exhaust all right, power or remedy, or proceed against any such subcontractor, prior to proceeding directly against Metagenomi.

(e) In the event that Metagenomi or its Affiliate is conducting any discovery, research, development, manufacture, commercialization or other exploitation of any therapeutic, diagnostic or preventative TCR-based therapy directed to an Affini-T Clinical Target other than under this Agreement ("**Competing Business**"), Metagenomi shall establish and enforce Firewalls between such activities and personnel (subject to the terms of Section 1.69) performing Metagenomi Research Activities under this Agreement for so long as Metagenomi performs Metagenomi Research Activities. For clarity, Metagenomi and its Affiliates shall not reference, use or otherwise exploit any Affini-T IP (or other Confidential Information of Affini-T, including Product Information) in conducting or pursuing the Competing Business.

4.2.2 Affini-T Responsibilities. In support of Metagenomi's activities under each Research Plan, Affini-T will provide Metagenomi, subject to Article 9, with access to Know-How (including data and other information) that is Controlled by Affini-T that is necessary or reasonably useful for the performance of such Metagenomi Research Activities.

4.2.3 Research Plan Costs. Affini-T will pay all reasonable costs actually incurred by Metagenomi for the performance of Metagenomi Research Activities under each Research Plan ("**Research Costs**"); provided that, Affini-T is not obligated to pay any costs and expenses that exceed the Plan Budget set forth in the applicable Research Plan and Metagenomi shall not be obligated to provide any services or materials for which it will not be paid under the applicable Plan Budget; provided, further, that in the case it appears that the Plan Budget will be exceeded, the Party identifying such issue shall promptly notify the other Party and the Parties shall discuss in good faith any reasonable adjustments to the Plan Budget. [***] Metagenomi will submit to Affini-T a detailed invoice, including the Metagenomi Research Activities completed and the actual Research Costs incurred in connection with each such Metagenomi Research

Activity pursuant to the Plan Budget as well as appropriate receipts for passthrough costs for the Research Costs that Metagenomi [***] and Affini-T will pay all undisputed invoices (or portions thereof) within[***] of receipt of such invoice pursuant to Section 8.4.5(c); provided that (i) Affini-T may reasonably request Metagenomi to provide additional details, documents or support in connection with any invoice and (ii) Affini-T shall pay all disputed invoices within[***] following resolution of a dispute by the Parties regarding any invoice. Affini-T shall have the right to audit Metagenomi's Research Costs by way of Section 8.4.4 applied *mutatis mutandis* (with appropriate substitution/replacement of relevant Party and subject matter references).

4.3 **Compliance**.

4.3.1 Applicable Laws. Metagenomi shall perform the Metagenomi Research Activities in compliance with all Applicable Laws. For clarity, with respect to each activity performed under the Research Plan that will or would reasonably be expected to generate any results, data, or analyses to be submitted to a Regulatory Authority in support of an IND, each Party shall comply with the regulations and guidance of the FDA that constitute GRP, GLP or GMP (or, if and as appropriate under the circumstances, International Conference on Harmonization ("**ICH**") guidance or other comparable regulation and guidance of any Regulatory Authority in any country or region in the Territory).

4.3.2 Compliance with Anti-Corruption Laws. In connection with this Agreement, each Party will comply with all applicable local, national, and international laws, regulations, and industry codes dealing with government procurement, conflicts of interest, corruption or bribery, including, if applicable, the U.S. Foreign Corrupt Practices Act of 1977, as amended ("**FCPA**"), and any laws enacted to implement the OECD Convention on Combating Bribery of Foreign Officials in International Business Transactions.

4.3.3 Prohibited Conduct. In connection with this Agreement, neither Party has made, offered, given, promised to give, or authorized, and neither Party will not make, offer, give, promise to give, or authorize, any bribe, kickback, payment or transfer of anything of value, directly or indirectly, to any person or to any Government Official for the purpose of: (a) improperly influencing any act or decision of the Person or Government Official; (b) inducing the Person or Government Official to do or omit to do an act in violation of a lawful or otherwise required duty; (c) securing any improper advantage; or (d) inducing the Person or Government Official to improperly influence the act or decision of any organization, including any government or government instrumentality, to assist Metagenomi or Affini-T in obtaining or retaining business.

4.3.4 Certain Standards Applicable to Metagenomi Work. All research done by Metagenomi for non-regulated work under this Agreement will be conducted in accordance with the Research Plan, GRP, and all applicable data privacy and security laws and regulations.

4.3.5 Compliance Audits. Without limiting Section 8.4.4 (which is specific to financial audits) and other Sections cross-referencing to Section 8.4.4, Affini-T shall have the right to audit Metagenomi and the facility(ies) where Metagenomi is performing activities under any Research Plan, including reviewing such documents and records, as is reasonably necessary for assessing Metagenomi's performance of the Research Program. Such audit and document review shall be conducted during business hours no more than [***] and only upon [***]advance notice

by Affini-T and the mutual agreement of the Parties as to the specific date and time for such audit; provided, however, that in the case of audits for cause, the [***] audit limit shall not apply and Affini-T shall request such audit upon at least [***] advance written notice. It is understood that Affini-T undertakes no obligation to inspect, audit or qualify the facility(ies) and any inspection conducted hereunder is for Affini-T's sole interest without undertaking any obligation or liability to Metagenomi or any other person or entity. Any audit under this Section 4.3.5 conducted by or on behalf of Affini-T shall not relieve Metagenomi from any of its obligations or liabilities under this Agreement. Affini-T shall not have the right in connection with any such audit to obtain access to information or materials that are (a) solely related to Metagenomi's collaboration with Third Parties, or (b) related to Metagenomi Background IP that is not licensed to or expected to be licensed to Affini-T under this Agreement (e.g. nuclease systems that are not currently utilized under a Research Plan).

4.4 **Record Keeping**. For so long as any Research Plan is being performed and for [***] thereafter, each Party shall maintain complete and accurate records (paper or electronic as applicable) of its research and Development activities under the Research Plans in sufficient detail, including in sufficient detail for purposes of making patent filings, in good scientific manner, or otherwise in a manner that reflects all work done and results achieved.

4.5 **Target Termination**. At any time during the Term, if Affini-T conclusively determines in good faith that it will not be Developing or Commercializing any Licensed Products with respect to a particular Affini-T Clinical Target, then Affini-T shall promptly notify Metagenomi of such conclusive determination and such Affini-T Clinical Target shall cease to be an Affini-T Clinical Target under this Agreement.

5. DEVELOPMENT ACTIVITIES; REGULATORY ACTIVITIES

5.1 **Responsibility for Development**. As between the Parties, Affini-T shall have the sole right and responsibility, at its sole cost and expense, for the conduct of all Development activities applicable to any Licensed Product in the Territory, including the Manufacture and supply of such Licensed Product in such quantities as required for such Development activities pursuant to this Agreement (subject to Metagenomi's Manufacturing rights and obligations under Article 7).

5.2 **Engagement of Third Party Contractors**. Affini-T, and its Affiliates and Sublicensees, shall have the right to engage Third Party contractors to perform any of its Development activities. Affini-T shall cause its contractors to comply with the provisions of this Agreement in connection with such performance. Affini-T shall execute a formal written agreement with its contractor governing the provision of services by such contractor. Each such contractor agreement shall require such contractor to comply with the applicable terms and conditions of this Agreement (including those provisions governing intellectual property, confidentiality and audit rights). Affini-T's execution of such a contractor agreement shall not relieve Affini-T of any of its obligations under this Agreement. Affini-T shall remain jointly and severally liable to Metagenomi for any performance or non-performance of any such contractor, and Affini-T hereby expressly waives any requirement that Metagenomi exhaust all right, power or remedy, or proceed against any such contractor, prior to proceeding directly against Affini-T.

5.3 **Development Diligence**. Upon Affini-T's exercise of its Exclusive Option or Non-Exclusive Option with respect to a given Affini-T Clinical Target, Affini-T will use Commercially Reasonable Efforts during the Term to Develop, including seeking Regulatory Approval for, at least one (1) Exclusive Licensed Product or Nonexclusive Licensed Product, as applicable, directed to such Affini-T Clinical Target [***].

5.4 **Progress Reports**. From the date of the Option exercise until [***], Affini-T shall provide Metagenomi an annual written update on the progress of its efforts to Develop Licensed Product(s) with respect to such Affini-T Clinical Target, including a high-level summary of material (a) Clinical Trials completed, (b) work-in-progress, (c) current schedules or anticipated events or milestones, and (d) transaction(s) involving Licensed Products, which summaries shall include relevant activities conducted and being conducted by Affini-T's Affiliates or Sublicensees.

5.5 **Regulatory Matters**.

5.5.1 Regulatory Filings Generally. As between the Parties, Affini-T shall have the sole right and responsibility for (i) preparing, filing and maintaining all Regulatory Filings for Licensed Products in the Territory and (ii) reporting to Regulatory Authorities all adverse, including serious, events occurring in any Clinical Trial conducted by or on behalf of Affini-T related to Licensed Products, to the extent required by Applicable Laws. Metagenomi shall prepare and file with the FDA a MG DMF (or an amendment to a pre-existing MG DMF) containing pertinent chemistry manufacturing control (CMC) information regarding the Metagenomi Reagents required for Affini-T's IND submissions (each such MG DMF, an "**Affini-T-Relevant DMF**"); provided that Affini-T shall notify Metagenomi at [***] to Affini-T's first anticipated IND filing (or foreign equivalent) for a Licensed Product, including through an update at the JSC, and Metagenomi shall file such an Affini-T-Relevant DMF at [***]to the date of such anticipated IND filing, subject to JSC approval to so file. Metagenomi hereby grants Affini-T or its designee a right of reference to all MG DMFs in any Regulatory Filing related to the use of the Metagenomi Reagents for a Licensed Product. Metagenomi shall provide Affini-T a copy of any MG DMF submission that also qualifies as an Affini-T-Relevant DMF at [***] prior to the date of such anticipated IND filing; provided that Affini-T shall not have the right to download copies of such Affini-T Relevant DMF. Affini-T shall have the right, but not the obligation, to provide comments and feedback with respect to such proposed DMF submission. Metagenomi shall consider Affini-T's comments and feedback in good faith, including amending a pre-existing DMF as appropriate, and shall provide subsequent iterations of each such Affini-T-Relevant DMF until Affini-T has no further comments or feedback and then the Affini-T Relevant DMF shall be submitted to the JSC for approval. After Metagenomi or its Affiliate submits an Affini-T-Relevant DMF to a Regulatory Authority (following JSC approval to so submit), and upon Affini-T's written request [***] prior to an anticipated IND filing (or foreign equivalent) for such Licensed Product, Metagenomi shall provide to such Regulatory Authority a Letter of Authorization (letter of access or other foreign equivalent) advising such Regulatory Authority that Affini-T has a right of reference with respect to, and permitting such Regulatory Agent the right to reference, the applicable DMF. Upon Affini-T's request, Metagenomi shall update such Letter of Authorization (letter of access or other foreign equivalent) to grant such right of reference to Affini-T's successor or permitted assign.

5.5.2 Licensed Product-Related Regulatory Interactions. Affini-T shall be solely responsible for any communications with any Regulatory Authorities regarding the Licensed Products. In the event that Metagenomi receives any communication from a Regulatory Authority regarding a Licensed Product, Metagenomi shall refer such Regulatory Authority to Affini-T and shall not otherwise communicate with such Regulatory Authority without Affini-T's prior written consent. Affini-T shall have the right to require that Metagenomi make available (at Metagenomi's cost and expense) an appropriate representative to be present, as a silent observer (except as Affini-T may expressly authorize otherwise), during a meeting or substantive telephone conference call with any Regulatory Authorities relating to Metagenomi Reagents.

5.5.3 Regulatory Consultation. Each Party will appoint a representative to discuss regulatory matters related to Metagenomi Reagents and Licensed Products with the other Party on a Calendar Quarter basis (each, "**Regulatory Representative**"), until such time as the Parties agree (each at its own discretion) in writing that such meetings will no longer be held. Such meetings may take place in person or by tele-/video-conference as the Regulatory Representatives may agree between themselves. The Regulatory Representatives shall discuss interactions and filings with Regulatory Authorities relating to: (a) with respect to Metagenomi and Metagenomi Reagents, for so long as there are outstanding Research Plans, all Metagenomi Reagents that are subject of any such Research Plans, and thereafter, all Metagenomi Reagents that are incorporated into one or more Licensed Products; or (b) with respect to Affini-T, Metagenomi Reagents for using Gene Edits to Manufacture Licensed Products.

5.6 **Know-How Sharing; Cooperation**. Promptly after the Effective Date (and in no event longer than [***]after the Effective Date), and from time-to-time thereafter, Metagenomi shall disclose or deliver to Affini-T copies of all Know-How in Metagenomi's or its Affiliate's possession (and will use reasonable efforts to obtain all data and information in Metagenomi's contract researcher's possession) relating to the Development and Commercialization of Licensed Products to the extent necessary or useful for Affini-T's performance or exercise of its rights under this Agreement, including [***]. Metagenomi shall promptly notify Affini-T regarding [***]. Upon Affini-T's reasonable request, Metagenomi will provide technical assistance to Affini-T during such disclosure or delivery set forth in the preceding sentences. Metagenomi shall, [***] reasonably cooperate with Affini-T in the Development of any Licensed Products, including making its employees and non-employee consultants reasonably available to consult with Affini-T on issues arising during Affini-T's Development and in connection with any request related to a Licensed Product or its Development from any Regulatory Authority, including regulatory, scientific, technical and clinical testing issues.

6. COMMERCIALIZATION OF PRODUCTS

6.1 **Responsibility for Commercialization of Licensed Products**. As between the Parties, Affini-T shall be responsible for the Commercialization of Licensed Products in the Territory, including (a) the conduct of all pre-marketing, marketing, promotion, sales, distribution, import and export activities (including securing reimbursement, sales and marketing and conducting any post-marketing trials or databases and post-marketing safety surveillance); (b) reporting of all adverse, including serious, events to Regulatory Authorities if and to the extent required by Applicable Laws; (c) the timing for the launch of Licensed Products and for submitting applications for reimbursement with respect to Licensed Products in any country in the Territory; and (d) booking all sales of Licensed Products in the Territory.

6.2 **Commercialization Diligence**. Upon Affini-T's exercise of its Exclusive Option or Non-Exclusive Option with respect to a given Affini-T Clinical Target and subject to obtaining Regulatory Approval for an Exclusive Licensed Product or Nonexclusive Licensed Product, as applicable, directed to such Affini-T Clinical Target, Affini-T shall use Commercially Reasonable Efforts during the Term to Commercialize at least one (1) Exclusive Licensed Product or Nonexclusive Licensed Product, as applicable, directed to such Affini-T Clinical Target [***].

6.3 **Compliance**. Affini-T shall perform its Commercialization activities in compliance in all material respects with all Applicable Laws.

7. MANUFACTURE AND SUPPLY

7.1 **Metagenomi Reagents Supply**. Metagenomi shall define, subject to the terms and conditions of this Agreement, and the Development Supply Agreement and Development Quality Agreement, or the Commercial Supply Agreement and Commercial Quality Agreement, as applicable, the strategy and plans to manufacture Metagenomi Reagents supplied by Metagenomi and shall keep Affini-T informed on the progress therefor. Subject to Section 2.1.2(d), Metagenomi will supply, and Affini-T will purchase from Metagenomi, all of the Metagenomi Reagents ordered by Affini-T to be used for Gene Edits in the manufacture of Licensed Products for pre-clinical research use pursuant to one or more Research Plans and clinical Development use pursuant to the Development Supply Agreement and Quality Agreement. The Parties will enter into a supply agreement (the "**Development Supply Agreement**") and a Quality Agreement for Development purposes (the "**Development Quality Agreement**") within[***] after Affini-T's exercise of its first Option unless mutually extended by the Parties in writing. Upon Affini-T's request, to be made at a logical time based on JSC discussions with respect thereto (but, in any event, prior to filing for Drug Approval Application) for a Licensed Product, the Parties shall amend the Development Supply Agreement (the "**Commercial Supply Agreement**") and Development Quality Agreement (the "**Commercial Quality Agreement**") to cover the supply of Metagenomi Reagents for Commercial purposes within [***] of such request. The Development Supply Agreement and Development Quality Agreement will include supply amount, cost (for development supply, to be set at Metagenomi's manufacturing costs therefor (as will be further defined) plus a reasonable

mark-up to be set forth in the Development Supply Agreement, and for commercial supply, the Parties will agree on reasonable fixed tier pricing to be set forth in the Commercial Supply Agreement), quality requirements, appropriate supply contingency plans, define supply defaults and remedies therefor, and certain manufacturing and scale up matters and other terms and conditions typically contained in a contract manufacturing services agreement.

7.2 **Agreement Resolution**.

7.2.1 Development Supply Agreement Finalization. If the Parties have not entered into a Development Supply Agreement within [***] after Affini-T's exercise of its first Option or such later date as mutually extended by the Parties in writing, the finalization of such Development Supply Agreement shall be finally resolved by binding arbitration. [***].

7.2.2 Development Quality Agreement Finalization. If the Parties have not entered into a Development Quality Agreement within [***] after Affini-T's exercise of its first Option or such later date as mutually extended by the Parties in writing, the finalization of such Development Quality Agreement shall be finally resolved by binding arbitration. [***]

8. CONSIDERATION

8.1 **Equity Grant**.

8.1.1 Initial Equity Grant. In partial consideration of Metagenomi entering into this Agreement, Affini-T will, promptly following the Effective Date, issue 719,920 shares of Affini-T's common stock to Metagenomi or its Affiliate in accordance with the terms of that certain restricted stock agreement, in substantially the form attached hereto as Schedule 8.1(a) (the "**Initial RSA**"), to be executed by the Parties contemporaneously with the execution of this Agreement.

8.1.2 Milestone Equity Grant. In partial consideration of Metagenomi entering into this Agreement, Affini-T will issue an additional 933,650 shares of Affini-T's common stock to Metagenomi or its Affiliate in accordance with the terms of that certain restricted stock agreement, in substantially the form attached hereto as Schedule 8.1(b) (the "**Milestone RSA**"), to be executed by the Parties promptly following the achievement of the Milestone.

8.2 **Option Exercise Payments**. Within [***] after providing a written notice identifying an Affini-T Clinical Target(s) with respect to which Affini-T wishes to exercise its Option for either an Exclusive License, a Non-Exclusive License or both, Metagenomi shall submit an invoice to Affini-T pursuant to Section 8.4.5(c) and Affini-T shall, within [***] of receipt of such invoice, make the following up to two-times (once for each Field), on an Affini-T Clinical Target-by-Affini-T Clinical Target basis (and corresponding to whether an Exclusive License, a Non-Exclusive License or both is/are taken with respect to such Affini-T Clinical Target), payments to Metagenomi ("**Option Exercise Fee**"):

Option for Commercial License in a Field	Option Exercise Fee for Exclusive License ($ US Dollars)	Option Exercise Fee for Non-Exclusive License ($ US Dollars)
Exercise of First Option in a Field	[***]	[***]
Exercise of Second Option in a Field	[***]	[***]
Exercise of Third Option in a Field	[***]	[***]
Exercise of Fourth Option in a Field	[***]	[***]
Exercise of Fifth Option in a Field	[***]	[***]
Exercise of Sixth Option in a Field	[***]	[***]

8.3 **Milestone Payments**.

8.3.1 Development Milestones. Affini-T shall notify Metagenomi within [***] after the first achievement of each of the following Development milestone events with respect to each Affini-T Clinical Target once for each Field. Metagenomi shall submit an invoice to Affini-T for the applicable payment pursuant to Section 8.4.5(c) and Affini-T shall, within [***] of receipt of such invoice, make the following payments once for each Field, on an Affini-T Clinical Target-by-Affini-T Clinical Target basis (and corresponding to whether the Licensed Product achieving the relevant milestone is an Exclusively Licensed Product or a Non-Exclusively Licensed Product). Each Development milestone shall be payable only once for each Affini-T Clinical Target in each Field once for each Field regardless of the number of Exclusively Licensed Products or Non-Exclusively Licensed Products associated with such Affini-T Clinical Target that achieve such milestone event. In the event a Licensed Product is directed to more than one Affini-T Clinical Target, such Licensed Product shall only trigger payment of applicable Development milestone amounts for a single Affini-T Clinical Target.

Development Milestone Event in a Field	Exclusively Licensed Product Milestone Payment ($ US Dollars)	Non-Exclusively Licensed Product Milestone Payment ($ US Dollars)
[***]	[***]	[***]
[***]	[***]	[***]

Development Milestone Event in a Field	Exclusively Licensed Product Milestone Payment ($ US Dollars)	Non-Exclusively Licensed Product Milestone Payment ($ US Dollars)
Maximum Total Development Milestone Payments	$18,750,000 for each Affini-T Clinical Target if all Development Milestones were achieved by an Exclusively Licensed Product and a Non-Exclusively Licensed Product both directed to such Affini-T Clinical Target [***]	

* For the purposes of this Section 8.3.1, "**[***]**" means the earlier of (a) [***], (b) [***], or (c) [***].

8.3.2 Regulatory Approval Milestones. Affini-T shall notify to Metagenomi within [***] after the first achievement of each of the following Regulatory Approval milestone events with respect to each Affini-T Clinical Target once for each Field. Metagenomi shall submit an invoice for the applicable payment to Affini-T pursuant to Section 8.4.5(c) and Affini-T shall, within [***] of receipt of such invoice, make the following payments once for each Field, on an Affini-T Clinical Target-by-Affini-T Clinical Target basis (and corresponding to whether the Licensed Product achieving the relevant milestone is an Exclusively Licensed Product or a Non-Exclusively Licensed Product). Each Regulatory Approval milestone shall be payable only once for each Affini-T Clinical Target in each Field regardless of the number of Exclusively Licensed Products or Non-Exclusively Licensed Products associated with such Affini-T Clinical Target that achieve such milestone event. In the event a Licensed Product is directed to more than one Affini-T Clinical Target, such Licensed Product shall only trigger payment of applicable Regulatory Approval milestone amounts for a single Affini-T Clinical Target.

Regulatory Approval Milestone Event in a Field	Exclusively Licensed Product Milestone Payment ($ US Dollars)	Non-Exclusively Licensed Product Milestone Payment ($ US Dollars)
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]

Regulatory Approval Milestone Event in a Field	Exclusively Licensed Product Milestone Payment ($ US Dollars)	Non-Exclusively Licensed Product Milestone Payment ($ US Dollars)
Maximum Total Regulatory Approval Milestone Payments	$40,625,000 for each Affini-T Clinical Target if all Regulatory Approval Milestones were achieved by an Exclusively Licensed Product and a Non-Exclusively Licensed Product both directed to such Affini-T Clinical Target [***]	

8.3.3 Commercial Sales Milestones. On a Affini-T Clinical Target-by-Affini-T Clinical Target basis, Affini-T shall notify and pay to Metagenomi within [***] after the first achievement of each of the following Commercial sales milestone events as determined by aggregating Net Sales of all Licensed Products directed to a given Affini-T Clinical Target (i.e., all Exclusively Licensed Products and Non-Exclusively Licensed Products directed to a given Affini-T Clinical Target). Metagenomi shall submit an invoice to Affini-T for the applicable payment pursuant to Section 8.4.5(c) and Affini-T shall, within [***] of receipt of such invoice, make the following one-time payments.

Commercial Sales Milestone Event	Milestone Payment ($ US Dollars)
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]
Maximum Total Commercial Sales Milestone Payments	$250,000,000 for each Affini-T Clinical Target [***]

In the event [***] or more Commercial sales milestone events are achieved in the same Calendar Year, Affini-T shall pay to Metagenomi each Commercial sales milestone payment corresponding to the respective Commercial sales milestone event. For the avoidance of doubt, each Commercial sales milestone payment shall be payable one time upon the first achievement of the corresponding Commercial sales milestone event, regardless of the number of times such Commercial sales milestone event may be achieved.

Once the Royalty Term with respect to a given Licensed Product and country has expired, the Net Sales of such Licensed Product in such country shall not count towards cumulative Net Sales for purposes of this Section 8.3.3.

8.3.4 Notice of Missing Payment. If Metagenomi believes any of the foregoing milestone event (Development, Regulatory Approval or Commercial sale) has occurred and it has not received payment of same from Affini-T, it shall so notify Affini-T in writing and shall provide to Affini-T documentation or other information that supports its belief.

8.4 **Payment of Royalties; Royalty Rates; Accounting and Records**.

8.4.1 Payment of Royalties. On a Licensed Product-by-Licensed Product and country-by-country basis, during the applicable Royalty Term for such Licensed Product and country, Affini-T shall pay Metagenomi tiered royalties on the worldwide Annual Net Sales of such Licensed Product at the royalty rates set forth below. No more than one royalty payment shall be due per Licensed Product per Calendar Quarter during the Royalty Term for such Licensed Product.

Annual Net Sales Thresholds (Determined on an Affini-T Clinical Target-by-Affini-T Clinical Target basis)	**Exclusively Licensed Product Royalty Rate**	**Non-Exclusively Licensed Product Royalty Rate**
Annual Net Sales of all Licensed Products directed to a given [***] is less than [***]	[***]	[***]
Annual Net Sales of all Licensed Products directed to a given [***]is equal to or greater than [***]but less than [***]	[***]	[***]
Annual Net Sales of all Licensed Products directed to a given [***]is equal to or greater than [***]but less than [***]	[***]	[***]
Annual Net Sales of all Licensed Products directed to a given [***]Target is equal to or greater than [***]	[***]	[***]

Once the Royalty Term with respect to a given Licensed Product and country has expired, the Net Sales of such Licensed Product in such country shall not count towards cumulative Net Sales for purposes of establishing Net Sales tiers pursuant to this Section 8.4.1.

8.4.2 Adjustments to Royalty Payments.

(a) Notwithstanding anything to the contrary in Section 8.4.1, if any Licensed Product is sold in a country and [***], then the royalties shall be [***], continuing until [***] with respect to such Licensed Product and such country at issue.

(b) If Affini-T, or any of its Affiliates or Sublicensees, is a party to a (sub)license from one or more Third Parties, including any Third Party license to Patent Rights which Cover, or Know-How which relates to a given Licensed Product (or its use or manufacture), because it is necessary or useful for Affini-T, its Affiliate or Sublicensee to avoid infringement of such Patent Right or misappropriation of such Know-How in the Development, Manufacture, Commercialize or other exploitation of a Licensed Product in a given country (each such Third Party license is referred to herein as a "**Third Party License**"), then, [***] of any payments owed by Affini-T or any of its Affiliates or Sublicensees to any such Third Party for such a Third Party License (collectively, the "**Third Party Payments**") shall be creditable against royalties payable to Metagenomi under Section 8.4.1; provided, that in no event will such credit reduce the royalties payable to Metagenomi for a given Calendar Quarter by [***]; provided, further, that if additional reductions would be possible but for the foregoing [***], then such amounts may be rolled forward to reduce future royalty payments. Notwithstanding the foregoing, if the Third Party License is necessary or useful for Affini-T, its Affiliate or Sublicensee to avoid infringement of one or more Patent Rights or misappropriation of Know-How as a result of exploitation of Metagenomi IP or the Metagenomi Reagents in accordance with the terms of this Agreement, then [***] of any Third Party Payments in connection with such Third Party License shall be creditable against payments to Metagenomi under Sections 8.3 and 8.4.1.

(c) If Affini-T is required to grant a Compulsory License to a Third Party with respect to a Licensed Product, as applicable in any country, and such Third Party actually sells such Licensed Product in such country under such Compulsory License, with a royalty rate lower than the applicable royalty rate provided by this Section 8.4, then the Parties shall share all amounts actually received by Affini-T or its Affiliates or Sublicensees from any Compulsory License in consideration of the sale of a Licensed Product less any withholding tax or other taxes as may be required under Applicable Law and actually withheld from such payment due to Affini-T, its Affiliate or Sublicensee, as applicable, [***] with Affini-T's share included in the royalty payments and reports made pursuant to Section 8.4.3.

8.4.3 Payment Dates and Reports. Affini-T shall provide a report showing the Net Sales of each Licensed Product and calculation of the amount of royalty due to Metagenomi within [***] after the end of each Calendar Quarter in which a sale of such Licensed Product occurs, commencing with the Calendar Quarter in which [***]. Metagenomi shall submit an invoice to Affini-T based on such royalty report pursuant to Section 8.4.5(c) and Affini-T shall pay such royalty payments within [***] after receipt of invoice.

8.4.4 Records; Audit Rights. Affini-T and its Affiliates and Sublicensees involved in booking sales of the Licensed Product shall keep and maintain for [***] from the end of the Calendar Year in which Net Sales occurred (the "**Retention Period**") complete and accurate records of gross sales and Net Sales by, as applicable, Affini-T and its Affiliates and Sublicensees of each Licensed Product, in sufficient detail to allow royalties to be determined accurately. Metagenomi shall have the right during the applicable Retention Period to appoint at its expense a nationally recognized independent certified public accountant reasonably acceptable to Affini-T to audit the relevant records of Affini-T and its Affiliates and Sublicensees to verify that the amount of such payment was correctly determined. Affini-T and its Affiliates and Sublicensees shall each make its records available for audit by such nationally recognized independent certified public accountant during regular business hours at such place or places where such records are customarily kept, upon [***]written notice from Metagenomi. Such audit right shall not be exercised by Metagenomi more than once in any Calendar Year or more than once with respect to sales of a particular Licensed Product in a particular period and such audit shall not unreasonably

interfere with or impede Affini-T's or its Affiliate's or sublicensee's business operations. All records made available for audit shall be deemed to be Confidential Information of Affini-T. The results of each audit, if any, shall be provided to and are binding on both Parties absent manifest error; provided, that, Affini-T shall be provided an opportunity to discuss the findings of any such audit with the auditor prior to disclosure of the results thereof to Metagenomi. In the event there was an underpayment by Affini-T hereunder, Affini-T shall promptly (but in any event no later than [***] after Affini-T's receipt of the report so concluding) make payment to Metagenomi of any shortfall. Metagenomi shall bear the full cost of such audit unless such audit discloses an underreporting by Affini-T of [***] or at least [***] of the aggregate amount of royalties payable in any Calendar Year, in which case Affini-T shall reimburse Metagenomi for [***]. In the event there was an overpayment by Affini-T hereunder, Affini-T may, at its discretion, credit such overpayment in the next royalty payment or request Metagenomi to and Metagenomi shall promptly (but in any event no later than [***] after Metagenomi's receipt of the report so concluding) make repayment to Affini-T of any such overage.

8.4.5 Payments; Withholding Tax.

(a) All payments made by Affini-T under this Article 8 shall be made by wire transfer from a banking institution in US Dollars in accordance with instructions given in writing from time to time by Metagenomi; provided however that Affini-T will, or its vendor on behalf of Affini-T, will disburse payments only to Metagenomi's jurisdiction of incorporation or to a jurisdiction in which Metagenomi has a significant business presence.

(b) If Applicable Laws require withholding of income or other taxes imposed upon any payments made by Affini-T to Metagenomi under this Agreement, including any value added tax or sales tax, Affini-T shall (i) make such withholding payments as may be required, (ii) subtract such withholding payments from such payments, (iii) submit appropriate proof of payment of the withholding taxes to Metagenomi within a reasonable period of time, and (iv) promptly provide Metagenomi with all official receipts with respect thereto. Affini-T shall render Metagenomi reasonable assistance in order to allow Metagenomi to obtain the benefit of any present or future treaty against double taxation which may apply to such payments.

(c) All invoices required to be submitted to Affini-T under this Agreement shall be submitted by Metagenomi to Bill.com or such other vendor designated by Affini-T in writing from time to time.

9. TREATMENT OF CONFIDENTIAL INFORMATION; PUBLICITY.

9.1 **Confidentiality**.

9.1.1 Confidentiality Obligations. Metagenomi and Affini-T each recognizes that the other Party's Confidential Information and Proprietary Materials constitute highly valuable assets of such other Party. Metagenomi and Affini-T each agrees that, during the Term and for an additional [***] after termination or expiration of this Agreement, (a) subject to Section 9.1.2, it will not disclose, and will cause its Affiliates not to disclose, any Confidential Information or Proprietary Materials of the other Party, (b) it will not use, and will cause its Affiliates not to use, any Confidential Information or Proprietary Materials of the other Party, except as expressly

permitted in this Agreement, (c) it shall not attempt to reverse engineer, deconstruct or in any way determine the structure or composition of any of the other Party's Proprietary Materials, and (d) it will use the same efforts to protect the other Party's Confidential Information as it does to protect its own similar Confidential Information (but, in any event, no less efforts than a reasonable Person in the industry would use to protect similar information).

9.1.2 Limited Disclosure. Each Disclosing Party agrees that disclosure of its Confidential Information or any transfer of its Proprietary Materials may be made by the Receiving Party to any employee, director or agent of, or consultant to, such Receiving Party or to other Third Parties to enable such other Party to exercise its rights (including Affini-T's right to fully exploit any Commercial License granted to it) or to carry out its responsibilities under this Agreement; provided, that, any such disclosure or transfer shall only be made to Persons who are bound by written obligations of confidentiality and non-use at least as strict as those described in Article 9. In addition, each Disclosing Party agrees that the Receiving Party may disclose Confidential Information of the Disclosing Party (a) on a need-to-know basis to such Receiving Party's professional, legal and financial advisors, (b) as reasonably necessary in connection with an actual or potential (i) permitted license or sublicense of such Receiving Party's rights hereunder, (ii) financing of such Receiving Party in a public or private offering, or (iii) merger, acquisition, consolidation, share exchange or other similar transaction involving such Receiving Party and any Third Party, (c) to any Third Party that is or may be engaged by a Receiving Party to perform services in connection with the Research Plan (or perform services in connection with carrying out Development or Commercialization activities) as necessary to enable such Third Party to perform such services, (d) as reasonably necessary to file, prosecute or maintain Patent Rights, or to file, prosecute or defend litigation related to Patent Rights, in accordance with this Agreement, (e) as reasonably necessary for Regulatory Filings or interactions with Regulatory Authorities, in each case relating to the Licensed Products, or (f) as required by Applicable Laws (including securities laws or regulations and the applicable rules of any public stock exchange in the case of any initial public offering or subsequent public offering or in response to rules or guidance of the United States Internal Revenue Service or other taxing authority, or in other legal processes, including by the rules or regulations of the United States Securities and Exchange Commission or similar regulatory agency in a country other than the United States or of any stock exchange or other securities trading institution); provided, that, in each case of clauses (a) – (c) any such disclosure or transfer shall only be made to Persons who are bound by written obligations of confidentiality and non-use consistent with those described in Article 9 (or industry standards in the case of a disclosure pursuant to clause (b)(ii)).

9.1.3 Requirement to Cooperate to Enable Accurate Public Disclosure. To the extent either Party discloses to the other Party any Confidential Information which is a fact, result or event relating to the Metagenomi Research Activities or the Development, Manufacture or Commercialization of any Licensed Product that the Receiving Party in good faith reasonably believes is insufficient to allow the Receiving Party to fully understand the materiality of such Confidential Information for purposes of determining whether the Receiving Party is required to disclose, to any Governmental Authority or publicly, any such Confidential Information in order to comply with Applicable Laws (including securities laws or regulations and the applicable rules of any public stock exchange), the Disclosing Party agrees to discuss such Confidential Information with the Receiving Party and provide any additional information reasonably necessary to enable the Receiving Party to assess the materiality, and the accuracy and completeness, of such information for such public disclosure purposes as the case may be, which additional information shall be treated as the Disclosing Party's additional Confidential Information and shall be treated in accordance with the terms hereof.

9.2 **Publicity**.

9.2.1 Press Releases. The Parties shall, upon such timing as the Parties jointly agree, issue a joint press release with respect to this Agreement, and each Party may make subsequent public disclosure of the contents of such press release without further approval of the other Party. Subject to the foregoing, except as otherwise permitted under this Article 9, neither Party shall issue a press or news release or make any similar public announcement related to the Research Plan or the terms and conditions of this Agreement without the prior written consent of the other Party. If a Party determines the need to make an announcement related to this Agreement (as distinct from a publication related to a Licensed Product, which is subject to Section 9.2.2) is required by Applicable Laws, it shall, to the extent reasonably practicable and permitted, give the other Party at least [***] advance notice of the text of the announcement so that the other Party will have an opportunity to comment upon the announcement. With respect to any such public disclosure, except for the initial press release described above, the requesting Party (the "**Requesting Party**") shall provide the other Party (the "**Reviewing Party**") with a draft of the Content (as defined in the next sentence) of the draft press release or public disclosure for review, at least [***] (if practicable under the circumstances, or if not practicable, such shorter time) in advance of the issuance of the press release or filing. The word "**Content**" in this Section 9.2.1 means any information relating to the activities contemplated by this Agreement and does not include any other business information of the Requesting Party or information pertaining to the "safe harbor" provisions of the U.S. Private Securities Litigation Reform Act of 1995 relating to "forward-looking statements." The Reviewing Party may notify the Requesting Party of any reasonable objections or suggestions that the Reviewing Party may have regarding the Content in the proposed public disclosure provided for review, and the Requesting Party shall reasonably consider any such objections or suggestions that are provided in a timely manner. The Requesting Party shall use diligent and good faith efforts to adopt the reasonable requests of the Reviewing Party with respect to its Confidential Information.

9.2.2 Right to Publish/Present. Notwithstanding the foregoing or anything to the contrary in this Agreement, except as set forth in the last sentence of this Section 9.2.2, Affini-T shall have the sole right to publish or publicly present all results or any and all milestone events achieved with respect to the research (including arising from or relating to the Metagenomi Research Activities), Development, Manufacture or Commercialization of any Licensed Product; provided, that, to the extent such publication contains Metagenomi's Confidential Information, Affini-T shall submit a draft of any proposed press release, manuscript, abstract or speech to Metagenomi at least [***] prior to any such submission for publication and at least [***] prior to any such oral presentation and Metagenomi shall have the right to notify Affini-T in writing within such [***]or [***], as applicable, period if it reasonably determines that such draft contains Confidential Information of Metagenomi, in which case Affini-T shall remove such Confidential Information from the proposed press release, manuscript, abstract or speech. Subject to the foregoing portion of this Section 9.2.2, Metagenomi shall have the right to publish or present without the prior written consent of Affini-T so long as no Confidential Information of Affini-T is included in any such publication or presentation (including no Product Information).

9.3 **Permitted Publication**. Notwithstanding Section 9.2, either Party may include in a public disclosure, without prior delivery to or approval by the other Party, any information which has previously been included in a public disclosure pursuant to Section 9.2. A Party relying on this Section 9.3 shall bear the burden of establishing that information has previously been included in a public disclosure that has been approved pursuant to Section 9.2 or published or publicly disclosed by the other Party.

9.4 **Use of Proprietary Materials**. From time to time during the Term, either Party (the "**Transferring Party**") may supply the other Party (the "**Recipient Party**") with Proprietary Materials of the Transferring Party for use in connection with this Agreement. Any Proprietary Materials being provided to Recipient Party shall be accompanied by a Materials Transfer Record substantially in the form of Schedule 9.4, which shall be signed by an official representative of both Parties. In connection with the receipt of any Proprietary Materials from the Transferring Party, each Recipient Party hereby agrees that (a) it shall not use such Proprietary Materials for any purpose other than exercising its rights or performing its obligations hereunder; (b) it shall use such Proprietary Materials only in compliance with all Applicable Laws; (c) it shall not transfer any such Proprietary Materials to any Third Party without the prior written consent of the Transferring Party; (d) the Recipient Party shall not acquire any rights of ownership, or title in or to, such Proprietary Materials as a result of such supply by the Transferring Party; and (e) upon the expiration or termination of this Agreement, the Recipient Party shall, if and as instructed by the Transferring Party, either destroy or return any such Proprietary Materials that are not the subject of the grant of a continuing license hereunder; provided, that each Recipient Party may retain the Proprietary Materials of the Transferring Party for the sole purpose of fulfilling regulatory requirements or industry best practices, including archived encapsulated cells from nonclinical GLP and clinical studies. EACH PARTY ACKNOWLEDGES THAT THE PROPRIETARY MATERIALS ARE BEING SUPPLIED WITH NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR THAT THE USE OF THE PROPRIETARY MATERIALS WILL NOT INFRINGE ANY PATENT OR PROPRIETARY RIGHTS OF ANY THIRD PARTY.

10. INTELLECTUAL PROPERTY RIGHTS

10.1 **Metagenomi In-Licensed IP**. If Metagenomi knows or should have knowledge of any Metagenomi In-Licensed IP that Metagenomi has a right to sublicense ("**Sublicenseable Metagenomi In-Licensed IP**"), or Affini-T becomes aware of any Metagenomi In-Licensed IP, then Metagenomi or Affini-T, as applicable, shall promptly notify the other Party in writing of any such Metagenomi In-Licensed IP (i.e., Sublicenseable Metagenomi In-Licensed IP in the case of Metagenomi, and Metagenomi In-Licensed IP in the case of Affini-T), including, in the case of Metagenomi providing a general description of the relevant Sublicenseable Metagenomi In-Licensed IP and any applicable financial terms (if Affini-T initiates this process, then Metagenomi shall promptly respond to Affini-T's initial notice advising whether such Metagenomi In-Licensed IP is Sublicenseable Metagenomi In-Licensed IP and, if it is, with such information). Upon receipt of any such notice from Metagenomi (including a subsequent

notice if Metagenomi is to provide information following an initial notice from Affini-T), Affini-T shall have the right to request, and Metagenomi shall provide, a copy of the license agreement and any amendments thereto with respect to such Sublicenseable Metagenomi In-Licensed IP (the "**Upstream Agreement**") and answer any reasonable questions with respect to such Upstream Agreement and Sublicenseable Metagenomi In-Licensed IP. Following such discussions, Affini-T shall have the right to include such Metagenomi In-Licensed IP as Metagenomi Background IP hereunder upon written notice to Metagenomi subject to Affini-T agreeing to be subject to any pass-through obligations or limitations applicable to Affini-T's exercise of such rights, including responsibility for payment obligations to the extent solely attributable to the rights granted to Affini-T. To the extent Sublicenseable Metagenomi In-Licensed IP is included as Metagenomi Background IP, Metagenomi shall comply with all terms and conditions of, and shall maintain in full force and effect each relevant Upstream Agreement related to such Sublicenseable Metagenomi In-Licensed IP and shall not terminate or amend any such Upstream Agreement in a way that could have an adverse effect on Affini-T's rights without Affini-T's prior written consent, such consent not to be unreasonably withheld or delayed.

10.2 **Ownership of Agreement IP**.

10.2.1 General. As between the Parties, all right, title and interest in any Agreement Know-How and Agreement Patent Rights, shall be owned as follows:

(a) Metagenomi shall solely own all (i) Agreement Know-How that solely (1) relates to the identification, characterization, composition of matter, and manufacture of Metagenomi Reagents, or (2) constitutes an improvement to Metagenomi Background IP (collectively (1) and (2), "**Metagenomi Agreement Know-How**"), and (ii) Patent Rights that Cover Metagenomi Agreement Know-How ("**Metagenomi Agreement Patent Rights**") (collectively (i) and (ii), "**Metagenomi Agreement IP**"); and

(b) Affini-T shall solely own all (i) Agreement Know-How that is not Metagenomi Agreement Know-How ("**Affini-T Agreement Know-How**"), including all Agreement Know-How that constitutes an improvement to Affini-T Background IP, and (ii) Patent Rights that Cover Affini-T Agreement Know-How ("**Affini-T Agreement Patent Rights**") (collectively (i) and (ii), "**Affini-T Agreement IP**").

10.2.2 Notice, Assignments, Assistance.

(a) Each Party shall (i) promptly notify the other Party of any Agreement Know-How made by or on behalf of itself and that is to be owned by the other Party, and (ii) hereby assigns, transfers and conveys to the other Party, or its designee, all of such Party's worldwide right, title and interest in and to any and all Agreement IP that is to be owned by such other Party in accordance with Section 10.2.1, including any and all moral rights and intellectual property rights inherent therein and appurtenant thereto, including all Patent Rights, copyrights, trademarks, Know-How and trade secrets and the rights to apply for the same.

(b) Upon the request and at the reasonable expense of the other Party, each Party shall execute and deliver any and all instruments and documents and take such other acts as may be necessary or desirable to document the assignment and transfer described in Section 10.2.2(a) or to enable such other Party to secure its rights in the applicable Agreement IP, including providing any necessary powers of attorney for such purpose.

10.2.3 CREATE Act. Notwithstanding anything to the contrary in this Article 10, neither Party shall have the right to make an election under the Cooperative Research and Technology Enhancement Act of 2004, 35 U.S.C. 103(c)(2)-(c)(3) (the "**CREATE Act**") when exercising its rights under this Article 10 without the prior written consent of the other Party. With respect to any such permitted election, the Parties shall coordinate their activities with respect to any submissions, filings, or other activities in support thereof. The Parties acknowledge and agree that this Agreement is a "joint research agreement" as defined in the CREATE Act.

11. FILING, PROSECUTION AND MAINTENANCE OF PATENT RIGHTS

11.1 **Patent Prosecution**.

11.1.1 Metagenomi Patent Prosecution Rights. Subject to the last sentence of this Section 11.1.1, Metagenomi shall be solely responsible (but not obligated) for the Patent Prosecution of the Metagenomi Agreement Patent Rights. Affini-T shall cooperate with and reasonably assist Metagenomi in connection with Metagenomi's Patent Prosecution of the Metagenomi Agreement Patent Rights (including review and providing comments for responses to office actions or official actions from worldwide patent offices), including by obtaining assignments to reflect chain of title consistent with the terms of this Agreement. All Patent Costs incurred by Metagenomi in connection with the Patent Prosecution of such Patent Rights shall be the sole responsibility of Metagenomi. If Metagenomi decides to cease prosecution of or to allow to lapse any Metagenomi Agreement Patent Right, it shall inform Affini-T of such decision promptly and, in any event, so as to provide Affini-T a reasonable amount of time to meet any applicable deadline to establish or preserve such Patent Rights. Affini-T shall have the right, but not the obligation, to assume sole responsibility for continuing the prosecution of such Patent Rights and paying any required Patent Costs to maintain such Patent Rights or defend such Patent Rights. If Affini-T notifies Metagenomi that it desires to assume responsibility for any such Metagenomi Agreement Patent Right, then Affini-T will have the right to undertake the Patent Prosecution with respect to such Patent Right in Metagenomi's name and such Patent Right shall cease to be a Metagenomi Patent Right for purposes of determining the Royalty Term.

11.1.2 Metagenomi's Patent Defense Rights. Metagenomi will notify Affini-T within [***] of becoming aware of any declaratory judgment, opposition, or similar action alleging the invalidity, unenforceability or non-infringement of any of the Metagenomi Agreement Patent Rights in the Territory. Metagenomi shall only be primarily responsible (but not obligated) for the Patent Defense of Metagenomi Agreement Patent Rights. At Metagenomi's reasonable expense, Affini-T shall cooperate with and assist Metagenomi in all reasonable respects, in connection with Metagenomi's Patent Defense activities. All Patent Costs incurred by Metagenomi in connection with the Patent Defense of such Patent Rights shall be the sole responsibility of Metagenomi. If Metagenomi decides to cease such Patent Defense with respect to any such Patent Right, it shall inform Affini-T of such decision promptly and, in any event, so as to provide Affini-T a reasonable

amount of time to meet any applicable deadline to defend or preserve such Patent Rights. Affini-T shall have the right, but not the obligation, to assume sole responsibility for continuing such Patent Defense (and thereafter the prosecution of such Patent Rights). If Affini-T notifies Metagenomi that it desires to assume responsibility for any such Patent Defense, then Affini-T will have the right to undertake the Patent Defense with respect to such Patent Right in Metagenomi's name.

11.1.3 Affini-T Prosecution Rights. As between the Parties, Affini-T, at its sole expense, shall be solely responsible for the Patent Prosecution of all Affini-T Patent Rights. Metagenomi shall cooperate with and assist Affini-T in all reasonable respects in connection with Affini-T's Patent Prosecution of such Patent Rights, including by obtaining assignments to reflect chain of title consistent with the terms of this Agreement.

11.1.4 Affini-T's Patent Defense Rights. Affini-T will notify Metagenomi within [***] of becoming aware of any declaratory judgment, opposition, or similar action alleging the invalidity, unenforceability or non-infringement of any Affini-T Patent Rights in the Territory. Affini-T shall be responsible for the Patent Defense of such Affini-T Patent Rights. Metagenomi shall cooperate with and assist Affini-T, at Affini-T's reasonable expense, in all reasonable respects in connection with Affini-T's Patent Defense activities. All Patent Costs incurred by Affini-T in connection with the Patent Defense of such Affini-T Patent Rights shall be, as between the Parties, the sole responsibility of Affini-T.

11.1.5 Information and Cooperation. Metagenomi shall (a) promptly provide Affini-T with copies of all patent applications with respect to Metagenomi Agreement Patent Rights to be filed pursuant to Section 11.1.1 and other material submissions and correspondence with the applicable patent offices, at least [***] (unless the circumstances require otherwise) prior to undertaking any filing for review and comment by Affini-T and (b) provide Affini-T and its patent counsel with an opportunity to consult with Metagenomi and its patent counsel regarding the filing and contents of any such application, amendment, submission or response, during such review period and as may otherwise be agreed by the Parties. The advice and suggestions of Affini-T and its patent counsel shall be taken into consideration in good faith by Metagenomi and its patent counsel in connection with such filing; provided, that, if Affini-T fails to timely provide any comment before the proposed filing or response date, Metagenomi's obligations under this Section 11.1.4 shall be deemed to have been fulfilled.

11.2 **Third Party Infringement**.

11.2.1 If (a) Metagenomi becomes aware of any suspected infringement of any Metagenomi Patent Rights or misappropriation of any Agreement Know-How, in each case with respect to the use by a Third Party of the Metagenomi Reagents to make Gene Edits directed to an Affini-T Clinical Target in the Exclusive Field ("**Infringement**"); or (b) Affini-T becomes aware of an Infringement, then that Party shall promptly notify the other Party of such Infringement of which it is aware (each, an "**Infringement Notice**"). The Parties shall promptly meet to discuss any Infringement and the strategy for patent enforcement with respect to that Infringement; provided, that, at the request of either Party, the Parties shall first execute a common interest agreement before any such meetings or exchange of detailed information.

11.2.2 Metagenomi shall have the first right, but not the obligation, to address any such Infringement in the Territory with respect to the Metagenomi Agreement IP, taking reasonable steps, which may include the institution of legal proceedings or other action, and to compromise or settle such Infringement (each, an "**Infringement Response**"); provided, that: (A) Metagenomi shall keep Affini-T reasonably informed about any such Infringement Response and Affini-T shall provide all reasonable cooperation to Metagenomi in connection with such Infringement Response; (B) Metagenomi shall not take any position with respect to, or compromise or settle, any such Infringement that relates to any Metagenomi Agreement IP in any way that is reasonably likely to adversely affect the scope, validity or enforceability of any Affini-T Agreement IP, the Commercial License or any Licensed Product, without the prior consent of Affini-T, which consent shall not be unreasonably withheld, conditioned or delayed; and (C) if Metagenomi does not intend to or does not take any action to prosecute or defend an Infringement of Metagenomi Agreement IP within [***] after the date of the Infringement Notice, or ceases to diligently pursue an Infringement Response with respect to such an Infringement of Metagenomi Patent Rights, it shall promptly inform Affini-T in such a manner that such Infringement Response will not be prejudiced and Affini-T shall have the right, but not the obligation, to assume sole responsibility to prosecute or defend an Infringement of such Patent Rights and paying all future costs associated with such Infringement Costs. All costs, including attorneys' fees, relating to an Infringement Response from Metagenomi shall be borne solely by Metagenomi.

11.2.3 Each Party shall have the right to participate and be represented by counsel that it selects, in any Infringement Response instituted or continued under Section 11.2.2 by the other Party. If a Party with the right to initiate an Infringement Response under Section 11.2.2 to eliminate an Infringement lacks standing to do so and the other Party has standing to initiate such action, then the Party with the right to initiate an action under Section 11.2.2 may name the other Party as plaintiff in such action or may require the Party with standing to initiate such Infringement Response at the expense of the other Party.

11.2.4 In any Infringement Response instituted under this Section 11.2, the Parties shall cooperate with and reasonably assist each other in all reasonable respects. Upon the reasonable request of the Party instituting that Infringement Response, the other Party shall join such Infringement Response and shall be represented using counsel of its own choice, at the requesting Party's expense.

11.2.5 Any settlements, damages or monetary awards ("**Recovery**") recovered by either Party pursuant to any Infringement Response shall, after reimbursing the Parties for their reasonable out-of-pocket expenses in making such recovery (which amounts shall be allocated pro rata if insufficient to cover the totality of such expenses), be [***]or[***]

11.3 **Defense of Claims**. If any action, suit or proceeding is brought against either Party or any Affiliate of either Party alleging the misappropriation or infringement of the Know-How or Patent Rights of a Third Party by reason of the research, Development, Manufacture or Commercialization of any Licensed Product or component thereof, including receipt of any notices of infringement under 35 U.S.C. § 271(e)(2), 42 U.S.C. § 262(1), or 42 U.S.C. § 262(1)(9)(C), such Party shall notify the other Party within [***] of the earlier of (a) receipt of service of process in such action, suit or proceeding,

or (b) the date such Party becomes aware that such action, suit or proceeding has been instituted. To the extent such action, suit or proceeding does not relate to Metagenomi Reagents, Affini-T shall have the sole right but not the obligation to control and defend such action, suit or proceeding at its sole expense. To the extent such action, suit or proceeding relates to Metagenomi Reagents, the Parties shall meet as soon as possible to discuss the overall strategy for defense of such matter and except as unanimously agreed by the Parties, (i) Affini-T shall have the right but not the obligation to control and defend such action, suit or proceeding at its sole expense; (ii) Metagenomi shall have the right to engage separate counsel at its own expense in any such action, suit or proceeding; and (iii) the Parties shall cooperate with each other in all reasonable respects in any such action, suit or proceeding. Each Party shall promptly furnish the other Party with a copy of each communication relating to the alleged infringement or misappropriation and a Metagenomi Reagent that is received by such Party including all documents filed in any litigation

11.4 **Patent Term Extension**. The Parties shall cooperate with each other in obtaining patent term extensions or supplemental protection certificates or their equivalents in any country in the Territory where applicable to any Patent Right Covering a Licensed Product. Such cooperation shall include diligently and timely conferring and coordinating with respect to such matters to ensure compliance with applicable filing deadlines and agreeing on procedures to be followed by the Parties to ensure such compliance. In the event that elections with respect to obtaining such patent term extension are to be made or the Parties otherwise disagree, Affini-T shall have the right to make the election or decision solely with respect to any Affini-T Patent Rights, and Metagenomi shall retain the right with respect to an election or decision with respect to the Metagenomi Patent Rights; provided that, Metagenomi shall consider any input from Affini-T with respect to the decision to extend Metagenomi Patent Rights in good faith.

12. TERM AND TERMINATION

12.1 **Term**. This Agreement shall commence on the Effective Date and shall continue in full force and effect, unless otherwise terminated pursuant to Section 12.2, until the fifth year anniversary of the Effective Date (the "**Initial Term**"); provided that, if Affini-T exercises an Exclusive Option with respect to any Affini-T Clinical Target during the Initial Term, then the Initial Term shall be extended by five (5) years (the "**Extended Term**") to allow Affini-T to exercise its Option with respect to other Affini-T Clinical Targets. Following the expiration of the Extended Term, if any, this Agreement shall survive, on an Affini-T Clinical Target-by-Affini-T Clinical Target basis, with respect to each Affini-T Clinical Target for which Affini-T has exercised its Option during the Initial Term or Extended Term until the earlier of (i) termination of such Affini-T Clinical Target in its entirety under Section 12.2 and (ii) the last day of the Royalty Term for the last Licensed Product associated with such Affini-T Clinical Target (collectively, the Initial Term, Extended Term (if any) and foregoing survival, the "**Term**"). Upon the expiration of the Royalty Term with respect to a given Licensed Product, country, and Field, the Commercial License granted to Affini-T shall be retained as fully paid-up, irrevocable and perpetual licenses with respect to such Licensed Product, country, and Field.

12.2 **Termination**. This Agreement, a given Affini-T Clinical Target or a Licensed Product may be terminated as follows:

12.2.1 Unilateral Right to Terminate. Affini-T may terminate this Agreement (a) in its entirety, or (b) on (i) a Research Plan-by-Research Plan basis, (ii) an Affini-T Clinical Target-by-Affini-T Clinical Target basis, or (iii) a Licensed Product-by-Licensed Product basis (terminations under this subclause (b), a "**Partial Termination**"), effective at any time by providing not less than sixty (60) days' prior written notice to Metagenomi.

12.2.2 Termination for Breach. If a Party materially breaches this Agreement, then the non-breaching Party may provide the breaching Party with a written notice specifying the nature of the breach, and stating its intention to terminate this Agreement if such breach is not cured; provided, that, this Agreement may only be terminated in its entirety pursuant to this Section 12.2.2 if the material breach materially and adversely impacts this Agreement as a whole, otherwise such termination must be specific to the impacted Research Plan, Affini-T Clinical Target or Licensed Product, as such specifically impacted subject matter(s) are noted in the notice of breach (also, a "**Partial Termination**"). If the material breach is not cured by the allegedly breaching Party within [***] after the receipt of such notice or if such other breach is curable but cannot be cured within the [***]period, the allegedly breaching Party fails to commence actions during such [***]period to cure such breach and thereafter fails to use Commercially Reasonable Efforts to promptly cure such breach, then, in each case, the non-breaching Party shall be entitled, without prejudice to any of its other rights under this Agreement, and in addition to any other remedies available to it by law or in equity, to terminate this Agreement by providing written notice to the other Party. If the allegedly breaching Party in good faith disputes such material breach or the failure to cure or remedy such material breach, such Party shall, within [***] of receipt of written notice from the other Party of termination (a) provide written notice of that dispute putting forward in reasonable detail the rationale for disputing the alleged breach to the notifying Party and (b) initiate a proceeding in accordance with Section 15.1, in which case, such termination shall not be effective until [***] after the proceeding has concluded; provided that the breaching Party shall have [***] after such proceeding to cure the breach and during the pendency of any such proceeding the Parties shall continue performing their respective obligations, and exercising their respective rights, under this Agreement.

12.2.3 Termination for Insolvency. Either Party shall have the right to terminate this Agreement in its entirety upon immediate written notice if the other Party (i) applies for or consents to the appointment of, or the taking of possession by, a receiver, custodian, trustee or liquidator of itself or of all of a substantial part of its property, (ii) makes a general assignment for the benefit of its creditors, (iii) commences a voluntary case under the Bankruptcy Code of any country, (iv) files a petition seeking to take advantage of any Applicable Laws relating to bankruptcy, insolvency, reorganization, winding-up, or composition or readjustment of debts, (v) fails to controvert in a timely and appropriate manner, or acquiesce in writing to, any petition filed against it in any involuntary case under the Bankruptcy Code of any country, (vi) takes any corporate action for the purpose of effecting any of the foregoing, (vii) has a proceeding or case commenced against it in any court of competent jurisdiction, seeking (A) its liquidation, reorganization, dissolution or winding-up, or the composition or readjustment of its debts, (B) the appointment of a trustee, receiver, custodian, liquidator or the like of all or any substantial part of its assets, or (C) similar relief under the Bankruptcy Code of any country, or an order, judgment or decree approving any of the foregoing is entered and continues unstayed for a period of [***], or (viii) has an order for relief against it entered in an involuntary case under the Bankruptcy Code of any country and, in any of (i) through (vii) above, the application, assignment, commencement, filing, or corporate action continues unstayed for, or is not otherwise discharged or withdrawn on or before, a period of [***].

12.3 **Consequences of Termination**.

12.3.1 If this Agreement is terminated in its entirety or subject to a Partial Termination by Affini-T pursuant to Section 12.2.2 or Section 12.2.3 or by Metagenomi pursuant to Section 12.2.3, Metagenomi shall cease performing all applicable Metagenomi Research Activities. Upon Affini-T's written request, Metagenomi will discuss in good faith (a) granting to Affini-T a research use license with respect to any applicable Metagenomi Background IP, and/or (b) a transfer of all complete or incomplete deliverables, reports and data with respect to the terminated Research Plan(s), Affini-T Clinical Target(s) or Licensed Product(s), in each case of (a) and (b), on commercially reasonable terms.

12.3.2 If this Agreement is terminated in its entirety or subject to a Partial Termination by Affini-T pursuant to Section 12.2.1, or by Metagenomi pursuant to Section 12.2.2, Metagenomi shall cease performing all applicable Metagenomi Research Activities. Affini-T shall be responsible for any non-cancellable costs incurred in accordance with an applicable Research Plan (and the subject of which costs cannot be reasonably allocable to other activities being conducted by Metagenomi).

12.3.3 Subject to the foregoing Section 12.3.1 and Section 12.3.2, all rights and licenses granted by one Party to the other under Article 2 will terminate with respect to the terminated subject matter.

12.3.4 Notwithstanding the foregoing, with respect to a Licensed Product on a Licensed Product-by-Licensed Product basis or with respect to all Licensed Products directed to such an Affini-T Clinical Target on an Affini-T Clinical Target-by-Affini-T Clinical Target basis, in the event that Affini-T has the right to terminate this Agreement in accordance with Section 12.2.2 as a result of a breach under Section 2.1.2 (Commercial License), 2.2 (Non-Compete), 4.2.1 (Metagenomi Responsibilities), 4.3 (Compliance), 9.1 (Confidentiality), 13.2.1 (No Claims), 13.2.3 (Ownership), 13.2.4 (Completeness) or 14.2 (Indemnification), and such breach resulted in a material adverse effect on the potential or actual development or commercialization of such Licensed Product(s) or such Affini-T Clinical Target(s), then, in lieu of exercising such termination right, Affini-T shall have the right, by way of written notice to Metagenomi, to continue this Agreement in accordance with its terms subject to [***]

12.4 **Surviving Provisions**. Termination or expiration of this Agreement for any reason shall be without prejudice to: (a) the survival of rights specifically stated in this Agreement to survive, including as set forth in this Section 12.4; (b) the rights and obligations of the Parties provided in Sections 2.1.4 (only for expiration and not termination), 4.4 (for the period set forth therein), 5.5.2 (first two sentences only and only for expiration and not termination), 8.4.4 (for the period set forth therein), 8.4.5, 10.2.2(b), 12.3 (as applicable) and 12.4 and Articles 1, 9 (for the period set forth in 9.1.1), 14 and 15 (excluding Section 15.8) (including all other Sections or Articles referenced in any such Section or Article), all of which shall survive such termination except as provided in this Article 12; and (c) any other rights or remedies provided at law or equity which either Party may otherwise have.

13. REPRESENTATIONS AND WARRANTIES

13.1 **Mutual Representations and Warranties**. Metagenomi and Affini-T each represents and warrants to the other, as of the Effective Date, as follows:

13.1.1 Organization. It is a corporation or company duly organized, validly existing and in good standing under the laws of the jurisdiction of its organization, and has all requisite power and authority, corporate or otherwise, to execute, deliver and perform this Agreement.

13.1.2 Authorization. The execution and delivery of this Agreement and the performance by it of the transactions contemplated hereby have been duly authorized by all necessary corporate action and will not violate (a) such Party's certificate of incorporation or bylaws, (b) any agreement, instrument or contractual obligation to which such Party is bound in any material respect, (c) any requirement of any Applicable Laws, or (d) any order, writ, judgment, injunction, decree, determination or award of any court or Governmental Authority presently in effect applicable to such Party.

13.1.3 Binding Agreement. This Agreement is a legal, valid and binding obligation of such Party, enforceable against it in accordance with its terms and conditions.

13.1.4 No Inconsistent Obligation. It is not under, and will not become subject to, any obligation, contractual or otherwise, to any Person that conflicts with or is inconsistent in any respect with the terms of this Agreement or that would impede the diligent and complete fulfillment of its obligations hereunder.

13.2 **Additional Representations, Warranties and Covenants of Metagenomi**. Metagenomi further represents and warrants to Affini-T, as of the Effective Date, as follows:

13.2.1 No Claims. There are no claims, judgments or settlements against Metagenomi pending, or threatened that invalidate or seek to invalidate Metagenomi's rights in any Metagenomi Background IP. To Metagenomi's knowledge, the exploitation of the Metagenomi Reagents and Metagenomi Background IP and use of Metagenomi Reagents by Affini-T in accordance with the terms of this Agreement, including as used in connection with Affini-T's further research, Development, Manufacturing or Commercialization of Licensed Products, will not infringe on the rights of any Third Party, including any Third Party intellectual property rights.

13.2.2 No Conflict. Metagenomi has not granted any right, license or interest in or to the Metagenomi Patent Rights that is inconsistent with the licenses and rights granted to Affini-T under this Agreement.

13.2.3 Ownership. Metagenomi is the sole and exclusive owner of the Metagenomi Reagents, Metagenomi Background IP, and Metagenomi Patent Rights, and, in each case, has the ability to grant to Affini-T the rights granted to Affini-T under this Agreement, and such ownership is free and clear of all encumbrances, security interests, options and licenses. None of the Metagenomi Reagents or Metagenomi Patent Rights is subject to any existing royalty or other payment obligations to any Third Party under any agreement or understanding entered into by Metagenomi or its Affiliates, and to Metagenomi's knowledge of any obligation to pay any royalties or other amounts to any Third Party by reason of Affini-T's use thereof as contemplated by this Agreement.

13.2.4 Completeness. The intellectual property licensed to Affini-T hereunder represents all of the intellectual property rights that are being used by Metagenomi or its Affiliates, or that are necessary or useful, for the exploitation of the Metagenomi Reagents internally referred to by Metagenomi, as of the Effective Date, as [***]. The Patent Rights set forth in Schedule 13.2.4 represents all patents that, as of the Effective Date, Metagenomi or its Affiliates Control, and that (a) Cover the Metagenomi Reagents internally referred to by Metagenomi, as of the Effective Date, as [***], Gene Edit using such Metagenomi Reagents or, to Metagenomi's knowledge, Licensed Products made using such Metagenomi Reagents, or (b) are otherwise necessary or useful to make, use, sell, import or practice such Metagenomi Reagent, Gene Edit using such Metagenomi Reagents, or, to Metagenomi's knowledge, Licensed Products incorporating such Metagenomi Reagents, such schedule shall be updated from time to time by Metagenomi on and after the Effective Date. For each Metagenomi Reagent (other than the Metagenomi Reagents internally referred to by Metagenomi, as of the Effective Date, as [***]), simultaneously with providing the Data Package in connection with such Research Plan, Metagenomi shall provide to Affini-T a written statement that represents and warrants that, except as disclosed in such written statement, the representations and warranties of Metagenomi set forth in this Section 13.2.4 are true and correct with respect to such Metagenomi Reagent as of the date of such written statement.

13.2.5 No Interference. The Metagenomi Patent Rights are not the subject of any interference proceeding and there is no pending or threatened action, suit, proceeding or claim by a Third Party challenging Metagenomi's ownership rights in, or the validity or scope of, such Patent Rights.

13.2.6 No Litigation. There is no claim, action, suit, proceeding, complaint or investigation pending before any court or administrative office or agency or, except with respect to disclosures provided in a letter from Simren Delaney at Metagenomi to Head of Legal at Affini-T of even date herewith, to Metagenomi's knowledge, currently threatened against, Metagenomi or any of its Affiliates, with respect to any of the Metagenomi Background IP.

13.2.7 No Third Party Infringement. Metagenomi has not initiated or been involved in any proceedings or claims in which it alleges that any Third Party is or was infringing or misappropriating any Metagenomi Background IP nor have any such proceedings been threatened by Metagenomi. To Metagenomi's knowledge, no Person is infringing or threatening to infringe or misappropriating or threatening to misappropriate any of the Metagenomi Background IP.

13.2.8 Assignment by Employees, Agents and Consultants. All employees and agents of, and consultants to, Metagenomi are obligated to assign to Metagenomi their rights in and to any inventions arising out of their work at Metagenomi either pursuant to written agreement or by operation of law.

13.2.9 No Government Funding. The inventions and Know-How included within Metagenomi Background IP (a) were not conceived, discovered, developed, or otherwise made in connection with any research activities funded, in whole or in part, by the federal government of the U.S. or any agency thereof, (b) are not a "subject invention" as that term is described in 35 U.S.C. Section 201(f), and (c) are not otherwise subject to the provisions of the Bayh-Dole Act.

13.2.10 Absence of Debarment. None of Metagenomi, its officers, employees, agents, consultants or any other person Metagenomi intends to use in the performance of the Metagenomi Research Activities has been or is (a) debarred, convicted, or is subject to a pending debarment or conviction, pursuant to section 306 of the United States Food Drug and Cosmetic Act, 21 U.S.C. § 335a, (b) listed by any government or regulatory agencies as ineligible to participate in any government healthcare programs or government procurement or non-procurement programs (as that term is defined in 42 U.S.C. 1320a-7b(f)), or excluded, debarred, suspended or otherwise made ineligible to participate in any such program, or (c) convicted of a criminal offense related to the provision of healthcare items or services, or is subject to any such pending action. Metagenomi agrees to inform Affini-T in writing promptly if Metagenomi or any person who is performing Metagenomi Research Activities is subject to the foregoing, or if any action, suit, claim, investigation, or proceeding relating to the foregoing is pending, or to the best of Metagenomi's knowledge, is threatened.

13.2.11 Disclosure. Metagenomi has made available to Affini-T all toxicology studies, clinical data, process and analytical development information, material filings and material correspondence with Regulatory Authorities, and all other material information in its possession or control relating to the Metagenomi Reagents internally referred to by Metagenomi, as of the Effective Date, as [***], and, to Metagenomi's knowledge, all such information is complete and accurate in all material respects. For each Metagenomi Reagent (other than the Metagenomi Reagents internally referred to by Metagenomi, as of the Effective Date, as [***]), simultaneously with providing the Data Package in connection with such Research Plan, Metagenomi shall provide to Affini-T a written statement that represents and warrants that, except as disclosed in such written statement, the representations and warranties of Metagenomi set forth in this Section 13.2.11 are true and correct with respect to such Metagenomi Reagent as of the date of such written statement.

13.2.12 No Human Materials. If pursuant to this Agreement Metagenomi provides to Affini-T any biological materials that consists of human tissues, cells or blood products or was directly obtained from human tissues, cells or blood products, then Metagenomi shall ensure that it has obtained and maintained the informed consent required under state and federal law from the donor of the tissue for the research and development, information disclosure, handling, storage and any other use associated with the human tissue, cells or blood products to be conducted under this Agreement.

13.3 **Warranty Disclaimer**. EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN THIS AGREEMENT, NEITHER PARTY MAKES ANY WARRANTY WITH RESPECT TO ANY KNOW-HOW, RIGHTS OR OTHER SUBJECT MATTER OF THIS AGREEMENT AND EACH PARTY HEREBY DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.

13.4 **No Warranty of Success**. Nothing contained in this Agreement shall be construed as a warranty, either express or implied, on the part of either Party that (a) the Metagenomi Research Activities, or development of Metagenomi Reagents on behalf of Affini-T will be successful, (b) the Development or Commercialization of any Licensed Product will be successful, or (c) any Licensed Product will be commercially exploitable in any respect.

14. INDEMNIFICATION

14.1 **Indemnification of Metagenomi by Affini-T**. Affini-T shall indemnify, defend and hold harmless Metagenomi, its Affiliates, their respective employees, directors, agents, officers and consultants (collectively, the "**Metagenomi Indemnitees**"), against all liabilities, damages, losses and expenses (including reasonable attorneys' fees and expenses of litigation) (collectively, "**Losses**") incurred by or imposed upon the Metagenomi Indemnitees, or any of them, as a direct result of claims, suits, actions, demands or judgments of Third Parties, including personal injury and Licensed Product liability claims (collectively, "**Metagenomi Indemnity Claims**"), arising out of (a) any breach of this Agreement (including any representation or warranty hereunder) by Affini-T or any Affini-T Indemnitee or Sublicensee, (b) the gross negligence or willful misconduct of Affini-T or any Affini-T Indemnitee or Sublicensee, or (c) the Development or Commercialization of a Licensed Product by Affini-T or any Affini-T Indemnitee or Sublicensee (expressly excluding any such activities conducted by or on behalf of Metagenomi or liabilities for which Metagenomi is liable as the manufacturer under the Development Supply Agreement or Commercial Supply Agreement); provided, that (i) any Affini-T Indemnity Claims or Losses for which Metagenomi has an obligation to indemnify Affini-T Indemnitees pursuant to Section 14.2 shall be excluded and with respect to which claim or Losses each Party shall indemnify the other to the extent of their respective liability for such Losses, (ii) Affini-T has no obligation to indemnify with respect to Losses arising out of the infringement or misappropriation of Third Party's intellectual property rights as a result of the exploitation of Metagenomi IP or the Metagenomi Reagents, in each case provided such exploitation is within the scope of the licenses granted to Affini-T hereunder, and (iii) Affini-T's indemnification obligations shall be limited to the extent that it is increased by Metagenomi's or any Metagenomi Indemnitee's negligence.

14.2 **Indemnification of Affini-T by Metagenomi**. Metagenomi shall indemnify, defend and hold harmless Affini-T, its Affiliates, their respective employees, directors, agents, officers and consultants (collectively, the "**Affini-T Indemnitees**"), against all Losses incurred by or imposed upon the Affini-T Indemnitees, or any of them, as a direct result of claims, suits, actions, demands or judgments of Third Parties, including personal injury and Licensed Product liability claims (collectively, "**Affini-T Indemnity Claims**") arising out of (a) any breach of this Agreement (including any representation or warranty hereunder) by Metagenomi or any Metagenomi Indemnitee, or (b) the gross negligence or willful misconduct of Metagenomi or any Metagenomi Indemnitee; provided, that (i) any Metagenomi Indemnity Claim or Losses for which Affini-T has an obligation to indemnify any Metagenomi Indemnitees pursuant to Section 14.1 shall be excluded and with respect to which claims or Losses each Party shall indemnify the other to the extent of their respective liability for such Losses, and (ii) Metagenomi's indemnification obligations shall be limited to the extent that it is increased by Affini-T or any Affini-T Indemnitees negligence.

14.3 **Conditions to Indemnification**. A Person seeking recovery under this Article 14 (the "**Indemnified Party**") in respect of a Claim shall give prompt notice of such Claim to the Party from whom indemnification is sought (the "**Indemnifying Party**"); provided, that the Indemnifying Party is not contesting its obligation under this Article 14, shall permit the Indemnifying Party to control any litigation relating to such Claim (including selecting counsel) and the disposition of such Claim; and further provided, that the Indemnifying Party shall (a) act reasonably and in good faith with respect to all matters relating to the settlement or disposition of such Claim as the settlement or disposition relates to such Indemnified Party and (b) not settle or otherwise resolve such claim without the prior written consent of such Indemnified Party (which consent shall not be unreasonably withheld, conditioned or delayed) unless such settlement fully releases the Indemnified Party without any liability, loss, cost or obligation incurred by the Indemnified Party (in which case prior consent shall not be required). Each Indemnified Party shall cooperate with the Indemnifying Party in its defense of any such Claim in all reasonable respects and shall have the right to be present in person or through counsel at all legal proceedings with respect to such Claim (with any such counsel being at its own sole cost and expense). If the Indemnifying Party does not assume and conduct the defense of the Claim as provided above, (i) the Indemnified Party may defend against, consent to the entry of any judgment, or enter into any settlement with respect to such Claim in any manner the Indemnified Party may deem reasonably appropriate (and the Indemnified Party need not consult with, or obtain any consent from, the Indemnifying Party in connection therewith), and (ii) the Indemnifying Party shall remain responsible to indemnify the Indemnified Party as provided in this Article 14.

14.4 **Limited Liability**. EXCEPT IN CONNECTION WITH A PARTY'S GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, NEITHER PARTY SHALL BE LIABLE TO THE OTHER PARTY OR ANY OF ITS AFFILIATES FOR ANY SPECIAL, PUNITIVE, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING LOST PROFITS OR LOST REVENUES, REGARDLESS OF ANY NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS SECTION 14.4 IS INTENDED TO OR SHALL LIMIT OR RESTRICT THE INDEMNIFICATION RIGHTS OR OBLIGATIONS OF ANY PARTY UNDER SECTION 14.1 OR 14.2.

15. MISCELLANEOUS

15.1 **Governing Law** .

15.1.1 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of New York (U.S.A.), without regard to the application of principles of conflicts of law.

15.1.2 Jurisdiction and Venue. Subject to Section 15.1.3 and 15.1.4, any legal suit, action, or proceeding arising under, out of or in connection with this Agreement (including any subsequent amendment) or the matters contemplated hereunder, including any dispute, controversy or claim with respect to the validity, enforceability, construction, performance or breach hereof, shall be instituted exclusively in the United States District Court for the Southern District of New York or the courts of the State of New York located in the city of New York and County of New York, and each Party irrevocably submits to the exclusive jurisdiction of such courts in any such suit, action, or proceeding and waives any objection based on improper venue or forum *non conveniens*. Service of process, summons, notice, or other document by mail to such Party's address set forth in Section 15.2 shall be effective service of process for any suit, action, or other proceeding brought in connection with this Agreement.

15.1.3 Equitable Relief. Notwithstanding anything to the contrary, each of the Parties hereby acknowledges that a breach or threatened breach of their respective obligations under this Agreement may cause irreparable harm and that the remedy or remedies at law for any such breach may be inadequate. Each of the Parties hereby agrees that, in the event of any such breach or threatened breach, in addition to all other available remedies hereunder, the non-breaching Party shall have the right, through any court of competent jurisdiction, to seek equitable relief to enforce the provisions of this Agreement, and each Party irrevocably submits to the exclusive jurisdiction of such courts in any such suit, action, or proceeding and waives any objection based on improper venue or forum non conveniens.

15.1.4 Agreement Dispute. It is the desire of the Parties to establish procedures to facilitate the resolution of any dispute, controversy, or claim between the Parties that may arise from time to time pursuant to, arising out of or in connection with this Agreement (excluding such matters as are the subject of the JSC's responsibilities under Article 3), including any Party's rights or obligations hereunder or any questions regarding the formation, existence, validity, enforceability, performance, interpretation, tort, breach or termination hereof (each, an "**Agreement Dispute**"), in an expedient manner by mutual cooperation and without resorting to litigation. To accomplish this objective, the Parties shall use reasonable efforts in good faith to resolve any Agreement Disputes. If, despite such reasonable efforts, agreement on a particular Agreement Dispute cannot be reached by the Parties within [***] after the Parties first consider such Agreement Dispute, the Parties shall refer such Agreement Dispute to the Executive Officers of the Parties who shall promptly initiate discussions in good faith to resolve such Agreement Dispute, and if not resolved by the Executive Officers within [***] from the date the Agreement Dispute is first referred to the Executive Officers, then each Party is free to pursue any remedy at law or in equity available to such Party.

15.2 **Notices**. All notices and communications shall be in writing and delivered personally or by internationally-recognized overnight express courier providing evidence of delivery or mailed via certified mail, return receipt requested, addressed as follows below, or by email or facsimile confirmed thereafter by any of the foregoing, or to such other address as may be designated from time to time by written notice given in accordance with this Section 15.2.

If to Affini-T:	Affini-T Therapeutics, Inc. 87 Greendale Ave. Needham, MA 02494 Attention: CEO With an electronic copy by email to:
With a copy to (that shall not constitute notice):	Affini-T Therapeutics, Inc. 2940 11th Ave. Los Angeles, CA 90018 Attention: Head of Legal With an electronic copy by email to:
With a copy to (that shall not constitute notice):	Morgan Lewis Bockius LLP 110 North Wacker Drive Chicago, IL 60606-1511 Attention: Benjamin H. Pensak With an electronic copy by email to:
If to Metagenomi:	Metagenomi, Inc. 1545 Park Avenue Emeryville CA 94608 Attention: CEO With an electronic copy by email to:
With a copy to (that shall not constitute notice):	Metagenomi, Inc. 1545 Park Avenue Emeryville CA 94608 Attention: VP of Legal, Chief of Staff With an electronic copy by email to:
With a copy to (that shall not constitute notice):	Fenwick & West LLP 555 California Street, 12th Floor San Francisco, CA 94104 Attention: Jake Handy With an electronic copy by email to:

Except as otherwise expressly provided in this Agreement or mutually agreed by the Parties in writing, any notice, communication or document (excluding payment) required to be given or made shall be deemed given or made and effective upon actual receipt or, if earlier, (a) [***]after deposit with an internationally-recognized overnight express courier with charges prepaid, or (b) [***]after mailed by certified, registered or regular mail, postage prepaid, in each case addressed to a Party at its address stated above or to such other address as such Party may designate by written notice given in accordance with this Section 15.2.

15.3 **Binding Effect**. This Agreement shall be binding upon and inure to the benefit of the Parties and their respective legal representatives, successors and permitted assigns.

15.4 **Headings**. Article, section and subsection headings are inserted for convenience of reference only and do not form a part of this Agreement.

15.5 **Counterparts**. This Agreement may be executed simultaneously in two or more counterparts, each of which shall be deemed an original and both of which, together, shall constitute a single agreement. Each Party may execute this Agreement by facsimile transmission or in Portable Document Format ("**PDF**") sent by electronic mail. In addition, facsimile or PDF signatures of authorized signatories of any Party will be deemed to be original signatures and will be valid and binding, and delivery of a facsimile or PDF signature by any Party will constitute due execution and delivery of this Agreement.

15.6 **Amendment; Waiver**. This Agreement may be amended, modified, superseded or canceled, and any of the terms of this Agreement may be waived, only by a written instrument executed by each Party or, in the case of waiver, by the Party or Parties waiving compliance. The delay or failure of either Party at any time or times to require performance or to exercise any right arising out of any provisions shall in no manner affect the rights at a later time to enforce the same. Any waiver by a Party of a particular provision or right shall be in writing, shall be as to a particular matter and, if applicable, for a particular period of time and shall be signed by such Party. No single or partial exercise of any right, power or privilege will preclude any other or further exercise of such right, power or privilege or the exercise of any other right, power or privilege. No waiver by either Party of any condition or of the breach of any term contained in this Agreement, whether by conduct, or otherwise, in any one or more instances, shall be deemed to be, or considered as, a further or continuing waiver of any such condition or of the breach of such term or any other term of this Agreement. Except as expressly set forth in this Agreement, all rights and remedies available to a Party, whether under this Agreement or afforded by Applicable Law or otherwise, will be cumulative and not in the alternative to any other rights or remedies that may be available to such Party.

15.7 **Purposes and Scope**. The Parties hereto understand and agree that the relationship between the Parties described in this Agreement is limited to the activities, rights and obligations as set forth in this Agreement. Nothing in this Agreement shall be construed (a) to create or imply a general partnership between the Parties, (b) to make either Party the agent of the other for any purpose, (c) to alter, amend, supersede or vitiate any other arrangements between the Parties with respect to any subject matter not covered hereunder, (d) to give either Party the right to bind the other, (e) to create any duties or obligations between the Parties except as set forth herein, or (f) to grant any direct or implied licenses or any other rights other than as set forth herein.

15.8 **Assignment and Successors; Change of Control**.

15.8.1 Generally. Neither this Agreement nor any obligation of a Party hereunder may be assigned by either Party without the written consent of the other Party, which consent shall not be unreasonably withheld, conditioned or delayed, except that each Party may assign this Agreement and the rights, obligations and interests of such Party without such consent (a) in whole or in part, to any of its Affiliates, or (b) in whole, but not in part, in connection with a Change of Control of such Party (whether this Agreement is actually assigned or is assumed by the acquiring party by operation of law (e.g., in the context of a reverse triangular merger). Subject to the terms and conditions hereof, no right of a Party shall be diminished and no obligation of a Party increased as a result of an assignment by the other Party hereunder, including as a result of a Change of Control of the other Party. This Agreement is intended for the benefit of the Parties and their respective successors and permitted assigns, and is not for the benefit of, nor may any provision hereof be enforced by, any other Person, other than the Parties and their respective successors and permitted assigns.

15.8.2 Metagenomi Change of Control. In the event of a Change of Control of Metagenomi prior to delivery of all Data Packages for each Research Plan, Metagenomi shall provide notice to Affini-T of such Change of Control within [***] after the date upon which the Change of Control closes or otherwise becomes public, and, if the merger partner for such Change of Control has a Competing Business, then following such Change of Control, Affini-T shall have the right to limit the information or reports otherwise required to be provided to Metagenomi or the JSC hereunder to only that which is essential to ensure Affini-T's compliance with its obligations hereunder and Affini-T shall have the right to refrain from including in such information or reports commercially sensitive information of Affini-T (as Affini-T may determine at its sole discretion).

15.9 **Force Majeure**. Neither Affini-T nor Metagenomi shall be liable for failure of or delay in performing obligations set forth in this Agreement, and neither shall be deemed in breach of its obligations, if such failure or delay is due to a Force Majeure. In the event of such Force Majeure, the Party affected shall use Commercially Reasonable Efforts to cure or overcome the same and resume performance of its obligations hereunder. Notice of a Party's failure or delay in performance due to Force Majeure must be given to the other Party within [***] after its occurrence. All delivery dates under this Agreement that have been affected by Force Majeure shall be tolled for the duration of such Force Majeure. If a Force Majeure persists for more than [***], then the Parties will discuss in good faith the modification of the Parties' obligations under this Agreement in order to mitigate the delays caused by such Force Majeure.

15.10 **Interpretation**. The Parties hereto acknowledge and agree that: (a) each Party and its counsel reviewed and negotiated the terms and provisions of this Agreement and have contributed to its revision; (b) the rules of construction to the effect that any ambiguities are resolved against the drafting Party shall not be employed in the interpretation of this Agreement; and (c) the terms and provisions of this Agreement shall be construed fairly as to each Party and not in a favor of or against either Party, regardless of which Party was generally responsible for the preparation of this Agreement. In addition, unless a context otherwise requires, wherever used, the singular shall include the plural, the plural the singular, the use of any gender shall be applicable to all genders, the word "or" is used in the inclusive sense (and/or) and the word "including" is used without limitation and means "including without limitation". Unless otherwise specified, references in this Agreement to any Article shall include all Sections, subsections and paragraphs in such Article, references to any Section shall include all subsections and paragraphs in such Section, and references in this Agreement to any subsection shall include all paragraphs in such subsection. The words "herein," "hereof" and "hereunder" and other words of similar import refer to this Agreement as a whole and not to any particular Section or other subdivision. The phrase "non-refundable, non-creditable" is not intended to limit either Party's rights to pursue or obtain damages arising from a breach of this Agreement. All references to days in this Agreement shall mean calendar days, unless otherwise specified. Unless the context requires otherwise, (i) any definition of or reference to any agreement, instrument or other document herein will be construed as referring to such agreement, instrument or other document as from time to time amended, supplemented or otherwise modified (subject to any restrictions on such amendments, supplements or modifications set forth herein or therein), (ii) any reference to any Applicable Laws herein will be construed as referring to such Applicable Laws as from time to time enacted, repealed or amended, (iii) any reference herein to any person will be construed to include the Person's successors and permitted assigns, (iv) any reference herein to the words "mutually agree" or "mutual written agreement" will not impose any obligation on either Party to agree to any terms relating thereto or to engage in discussions relating to such terms except as such Party may determine in such Party's sole discretion, (v) all references herein to Sections or Schedules will be construed to refer to Sections and Schedules to this Agreement, (vi) except as otherwise expressly provided herein all references to "$" or "dollars" refer to the lawful money of the U.S., and (vii) the words "copy" and "copies" and words of similar import when used in this Agreement include, to the extent available, electronic copies, files or databases containing the information, files, items, documents or materials to which such words apply. This Agreement has been prepared in the English language and the English language shall control its interpretation. In addition, all notices required or permitted to be given hereunder, and all written, electronic, oral or other communications between the Parties regarding this Agreement shall be in the English language.

15.11 **Entire Agreement; Severability**. This Agreement, the Existing RSA, the A&R Side Letter, MFN Waiver and the Initial RSA and Milestone RSA executed in accordance with Section 8.1 set forth the entire agreement with respect to the subject matter hereof and thereof and supersede all other agreements and understandings between the Parties with respect to such subject matter. There are no covenants, promises, agreements, warranties, representations, conditions or understandings, either oral or written, between the Parties with respect to the subject matter of this Agreement other than as are set forth in this Agreement and any other documents delivered pursuant hereto or thereto. If any provision of this Agreement is or becomes invalid or is ruled invalid by any court of competent jurisdiction or is deemed unenforceable, it is the intention of the Parties that the remainder of the Agreement shall not be affected.

15.12 **Further Assurances**. Each of Metagenomi and Affini-T, upon the request of the other Party and without further consideration, will do, execute, acknowledge, and deliver or cause to be done, executed, acknowledged or delivered all such further acts, deeds, documents, assignments, transfers, conveyances, powers of attorney, instruments and assurances as may be reasonably necessary to effect complete consummation of the transactions contemplated by this Agreement, and to do all such other acts, as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement. The Parties agree to execute and deliver such other documents, certificates, agreements and other writings and to take such other actions as may be reasonably necessary in order to consummate or implement expeditiously the transactions contemplated by this Agreement.

15.13 **Expenses**. Each of the Parties will bear its own direct and indirect expenses incurred in connection with the negotiation and preparation of this Agreement and, except as set forth in this Agreement, the performance of the obligations contemplated hereby and thereby.

15.14 **Intellectual Property**. The Parties acknowledge and agree that the licenses granted by the Parties and all other rights granted under or pursuant to this Agreement are and shall otherwise be deemed to be, for purposes of Section 365(n) of the Bankruptcy Code (or analogous provisions of the bankruptcy laws of any Governmental Authority), licenses of rights to "intellectual property" as defined under Section 101(35A) of the Bankruptcy Code (or analogous foreign provisions), and that this Agreement is an executory contract governed by Section 365(n) of the Bankruptcy Code (or analogous foreign provisions) in the event that a bankruptcy proceeding is commenced involving either Party. Affini-T, as the licensee of such rights under Article 2, shall retain and may fully exercise all of its rights and elections under the Bankruptcy Code. The foregoing provisions of this Section 15.14 are without prejudice to any rights the Parties may have arising under the Bankruptcy Code or other Applicable Laws.

15.15 **Performance by Affiliates**. Subject to Section 2.2.3 and Section 4.2.1(e), as applicable, either Party may discharge any obligation and exercise any right hereunder through any of its Affiliates. Each Party shall remain jointly and severally liable to the other Party for any performance or non-performance of any such Affiliate, and each Party hereby expressly waives any requirement that the other Party exhaust all right, power or remedy, or proceed against any such Affiliate, prior to proceeding directly against such Party.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives.

AFFINI-T THERAPEUTICS, INC.

By: /s/ Jak Knowles
Name: Jack Knowles
Title: CFO
Date: June 14, 2022

METAGENOMI, INC.

By: /s/ Brian C. Thomas
Name: Brian C. Thomas
Title: CEO
Date: June 14, 2022

[SIGNATURE PAGE TO DEVELOPMENT OPTION AND LICENSE AGREEMENT]

• 1545 PARK AVENUE •
• EMERYVILLE, CALIFORNIA •

• NET LEASE •

BASIC LEASE INFORMATION

Date of Lease:	January 22, 2021
Landlord:	EPL HALLECK INVESTORS LLC, a California limited liability company
Landlord's Notice Address:	EPL Halleck Investors LLC c/o Ellis Partners LLC 111 Sutter Street, Suite 800 San Francisco, CA 94104 Attn: James F. Ellis E-mail: Telephone:
Tenant:	METAGENOMI, INC., a Delaware corporation
Tenant's Notice Address:	Prior to the Rent Commencement Date (as defined herein): 5980 Horton Street Emeryville, CA 94608 Attn: Brian Thomas After the Rent Commencement Date: 1545 Park Avenue Emeryville, California 94608 Attn: Brian Thomas E-mail: Telephone: with a copy to (except for notices to access the Leased Premises): Dalsin Law 1630 N. Main Street, No. 221 Walnut Creek, CA 94596 Attn: Ann Dalsin E-mail: Telephone:

Building:	The building whose address is 1545 Park Avenue, Emeryville, California.
Leased Premises:	Approximately 23,851 rentable square feet consisting of the entire Building (as defined herein). The Leased Premises (as defined herein) contains the following: (i) approximately 22,519 rentable square feet of office and R&D space (the "**Office Premises**") and (ii) approximately 1,332 rentable square feet of a roof deck (the "**Roof Deck Premises**"), all as approximately shown on the floor plan attached hereto as **Exhibit A-1**.
Rentable Area:	
Leased Premises:	Approximately 23,851 rentable square feet.
Building:	Approximately 23,851 rentable square feet.
Term Commencement Date (and Rent Commencement Date):	The later of (i) February 1, 2021, or (ii) the earlier of (x) the date that the punchlist items set forth in Schedule 2.20 are substantially complete, or (y) the date that a temporary or permanent certificate of occupancy or its equivalent has been obtained from the City of Emeryville.
Term Expiration Date:	The last day of the one hundred twentieth (120th) full calendar month after the Term Commencement Date (meaning if the Term Commencement Date shall occur on a date other than the first day of a calendar month, the Term shall be one hundred twenty (120) full calendar months plus a partial month).
Option to Extend:	**Number of Extension Periods**: One (1) **Years per Extension Period**: Five (5)
Base Rent:	Rent Commencement Date through the last day of the 12th full calendar month after the Rent Commencement Date = $149,068.75 per month.

Notwithstanding the foregoing, provided that no event of default beyond any applicable cure period is occurring, Base Rent shall be abated for the first fifty-seven (57) days after the Rent Commencement Date (the "**Base Rent Abatement Period**") (the collective Base Rent abatement during the Base Rent Abatement Period is equivalent to $279,350.75).

Month 13 through Month 24 = $153,540.81 per month.

Month 25 through Month 36 = $158,147.04 per month.

Month 37 through Month 48 = $162,891.45 per month.

Month 49 through Month 60 = $167,778.19 per month.

Month 61 through Month 72 = $172,811.54 per month.

Month 73 through Month 84 = $177,995.88 per month.

Month 85 through Month 96 = $183,335.76 per month.

Month 97 through Month 108 = $188,835.83 per month.

Month 109 through the Term Expiration Date = $194,500.91 per month.

Tenant's Proportionate Share: 100% of the Building.

Landlord estimates that Tenant's Proportionate Share of Basic Operating Costs will be approximately $1.57 per rentable square foot per month for the initial year of the Term.

The foregoing amount does not include HVAC Maintenance [as defined in Section 5.4(b)], Elevator Maintenance [as defined in Section 5.4(c)], and fire/life safety monitoring of the Building, which costs shall be paid by Tenant to Landlord as set forth in the Lease.

	Landlord does not represent, warrant or guarantee to Tenant that Tenant's Proportionate Share of Operating Costs will be the above-stated amount during the term of the Lease. Landlord's estimate is merely intended to be Landlord's reasonable estimate, based upon information presently available to Landlord. Tenant acknowledges and agrees to the foregoing limitation with respect to Landlord's estimate.
Utilities, Janitorial, and Refuse Removal:	In addition to payment of Tenant's Proportionate Share of Basic Operating Costs, HVAC Maintenance, Elevator Maintenance, and fire/life safety monitoring of the Building and other expenses, Tenant shall be responsible for, among other things, the payment of all separately- metered utilities for the Leased Premises, janitorial services for the Leased Premises, and refuse removal for the Leased Premises.
Parking Spaces:	Tenant shall have the use of all parking spaces on the Project at no cost for the initial Term and the Option Term (as defined in Section 8.1).
Security Deposit:	$3,300,000.00, which shall be provided in the form of a letter of credit (amount is subject to reduction; see Section 5.14).
Guarantor:	None
Landlord's Broker:	None
Tenant's Broker:	Kidder Matthews

EXHIBITS:

SCHEDULES

Schedule 1.20 - Form of Letter of Credit
Schedule 2.20 - List of Punchlist Items

The foregoing BASIC LEASE INFORMATION is incorporated herein and made a part of the LEASE to which it is attached. If there is any conflict between the BASIC LEASE INFORMATION and the LEASE, the BASIC LEASE INFORMATION shall control.

NET LEASE

THIS NET LEASE (this "**Lease**") is made as of the date specified in the BASIC LEASE INFORMATION sheet, by and between the landlord specified in the BASIC LEASE INFORMATION sheet ("**Landlord**") and the tenant specified in the BASIC LEASE INFORMATION sheet ("**Tenant**").

Article I

Definitions

1.1 Definitions: Terms used herein shall have the following meanings:

1.2 "**Additional Rent**" shall mean all monetary obligations of Tenant under this Lease other than the obligation for payment of Net Rent.

1.3 Intentionally deleted.

1.4 "**Base Rent**" shall mean the minimum monthly rental amounts set forth in the Basic Lease Information due from time to time as rental for the Leased Premises.

1.5 Intentionally deleted.

1.6 "**Basic Operating Costs**" shall have the meaning given in Section 3.5.

1.7 "**Building**" shall mean the building and other improvements associated therewith identified on the Basic Lease Information sheet.

1.8 "**Building Standard Improvements**" shall mean the standard materials ordinarily used by Landlord in the improvement of the Building and leased premises within the Building.

1.9 Intentionally Omitted.

1.10 "**Computation Year**" shall mean a fiscal year consisting of the calendar year commencing January 1st of each year during the Term and continuing through the Term with a short or stub fiscal year in (i) the period between the Rent Commencement Date and December 31 of such year and (ii) any partial year in which the Lease expires or is terminated for the period between January 1 of such year and the date of lease termination or expiration.

1.11 Intentionally deleted.

1.12 "**Landlord's Broker**" shall mean the individual or corporate broker identified on the Basic Lease Information sheet as the broker for Landlord.

1.13 Intentionally deleted.

1.14 "**Leased Premises**" shall mean the floor area more particularly shown on the floor plan attached hereto as **Exhibit A-1**, containing the Rentable Area (as such term is defined in Section 1.19 below) specified on the Basic Lease Information sheet.

1.15 "**Net Rent**" shall mean the total of Base Rent and Tenant's Proportionate Share of Basic Operating Costs calculated in accordance with Section 3.4.

1.16 "**Permitted Use**" for the Office Premises shall mean general office and administrative use, and other ancillary uses, all legally permitted functions of a life science or research and development company, including, without limitation, chemistry labs, biology labs, protein production, pilot plant, and related or ancillary uses, and warehouse use, and ancillary uses. Except as set forth above or approved by Landlord, the Leased Premises shall not be used for any other purpose.

1.17 "**Project**" shall mean the Building, adjoining parking areas, and the real property on which the Building and the parking are located. The Project is located on a legal parcel of land described on **Exhibit A-2**.

1.18 "**Rent**" shall mean Net Rent plus Additional Rent.

1.19 "**Rentable Area**" shall mean the area or areas of space in the Building/Leased Premises as calculated in accordance with BOMA 2017 office standard measurement methods. The Rentable Area of the Building/Leased Premises shall not be subject to re-measurement or modification during the Term of this Lease.

1.20 "**Security Deposit**" shall mean the amount specified on the Basic Lease Information sheet to be delivered by Tenant to Landlord in the form of a clean and irrevocable letter of credit, substantially in the form attached hereto as **Schedule 1.20** and held and applied pursuant to Section 5.14.

1.21 Intentionally deleted.

1.22 Intentionally deleted.

1.23 Intentionally deleted.

1.24 "**Tenant's Broker**" shall mean the individual or corporate broker identified on the Basic Lease Information sheet as the broker for Tenant.

1.25 Intentionally deleted.

1.26 "**Tenant's Proportionate Share**" is specified on the Basic Lease Information sheet and is based on the percentage which the Rentable Area of the Leased Premises bears to the total Rentable Area of the Building.

1.27 "**Term**" shall mean the period commencing with the Term Commencement Date and ending at midnight on the Term Expiration Date.

1.28 "**Term Commencement Date**" shall be the date set forth on the Basic Lease Information sheet.

1.29 "**Term Expiration Date**" shall be the date set forth on the Basic Lease Information sheet, unless sooner terminated pursuant to the terms of this Lease or unless extended pursuant to the provisions of Section 8.1.

1.30 Other Terms. Other terms used in this Lease and on the Basic Lease Information sheet shall have the meanings given to them herein and thereon.

Article II

Leased Premises

2.1 Lease. Landlord hereby leases to Tenant and Tenant hereby leases from Landlord the Leased Premises upon all of the terms, covenants and conditions set forth in this Lease.

2.2 Current Tenant; Acceptance of Leased Premises.

(a) Tenant acknowledges that (i) Perfect Day, Inc., a Delaware corporation, is the current tenant of the Leased Premises (the "**Current Tenant**") under that certain Net Lease Agreement dated as of June 26, 2019, between Current and Landlord, as amended by that certain First Amendment to Net Lease dated as of August 1, 2019 (the "**First Amendment**"), by that certain Second Amendment to Net Lease dated as of February 24, 2020 (the "**Second Amendment**"), and by that certain Third Amendment to Net Lease dated as of September 21, 2020 (the "**Third Amendment**") (as so amended, the "**PD Lease**"). Current Tenant performed substantial improvements to the Building (the "**PD Tenant Improvements**"), and (ii) concurrently with Current Tenant's performance of the PD Tenant Improvements, Landlord performed numerous upgrades to the Building (the "**Base Building Upgrades**") as set forth in **Exhibit B-1**.

(b) Tenant acknowledges that (a) it has satisfied itself with respect to the condition of the Leased Premises (including, without limitation, the PD Tenant Improvements, the Base Building Upgrades, HVAC, electrical, plumbing and other mechanical installations, fire sprinkler systems, security, environmental aspects, and compliance with applicable laws, ordinances, rules and regulations) and the present and future suitability of the Leased Premises for Tenant's intended use; (b) Tenant has made such inspection and investigation as it deems necessary with reference to such matters and assumes all responsibility therefor as the same relate to Tenant's occupancy of the Leased Premises for the Term of this Lease; and (c) neither Landlord nor any of Landlord's agents has made any oral or written representations or warranties with respect to the condition, suitability or fitness of the Leased Premises other than as may be specifically set forth in this Lease. Tenant accepts the Leased Premises in its AS IS condition existing on the date Tenant executes this Lease, subject to all matters of record and applicable laws, ordinances, rules and regulations. Tenant acknowledges that neither Landlord nor any of Landlord's agents has agreed to undertake any alterations or additions or to perform any maintenance or repair of the Leased Premises except for the routine maintenance specified herein and except as may be expressly set forth herein and in **Exhibit B**. If Landlord, for any reason whatsoever, cannot deliver possession of the Leased Premises to Tenant on the Term Commencement Date in the condition specified in this Section 2.2, Landlord shall neither be subject to any liability nor shall the validity of this Lease be affected; provided, the Term and the obligation to pay Net Rent shall commence on the date possession is actually tendered to Tenant

and the Term Expiration Date shall be extended commensurately and Tenant shall not have any obligation to perform the covenants or observe the conditions herein contained until the Leased Premises have been so delivered. When the Term Commencement Date, the Rent Commencement Date, and the Term Expiration Date have been ascertained, the parties shall promptly execute a Confirmation of Term of Lease substantially in the form attached as **Exhibit C**. Tenant shall execute and return such Confirmation of Term of Lease to Landlord within fifteen (15) days after Tenant's receipt thereof. If Tenant fails to execute and return (or reasonably object in writing to) the Confirmation of Term of Lease within fifteen (15) days after receiving it, Tenant shall be deemed to have executed and returned it without exception. Notwithstanding anything to the contrary set forth herein, except to the extent caused by Tenant and excluding the PD Tenant Improvements, the base Building electrical, heating, ventilation and air conditioning systems, mechanical systems, plumbing systems, and fire sprinkler, fire alarm monitoring and smoke detector systems and the Building roof, curtain wall, and envelope shall be in good working order and leak-free as of the Rent Commencement Date. If the foregoing are not in good and working order as provide above, Landlord shall be responsible for repairing or restoring same at its sole cost and expense promptly, provided that Tenant has delivered written notice thereof to Landlord. In addition, Landlord represents and warrants to Tenant that the Base Building Upgrades were performed substantially in accordance with the plans submitted to and the permit issued by the City of Emeryville.

(c) Landlord shall use good faith and diligent efforts to cause the contractor that constructed and performed the PD Tenant Improvements to assign to Landlord and/or Tenant all warranties, rights and remedies provided to the Current Tenant under the construction contract between the contractor and the Current Tenant relating to construction defects and similar claims, and Landlord shall use good faith and diligent efforts to enforce any such warranties, rights and remedies.

2.3 Intentionally Omitted.

2.4 Reservation of Rights. Landlord reserves the right from time to time, to install, use, maintain, repair, relocate and/or replace pipes, conduits, wires and equipment within and around the Building and the Project and to do and perform such other acts and make such other changes, additions, improvements, repairs and/or alterations in, to or with respect to the Building and the Project (including without limitation with respect to the driveways, parking areas, walkways and entrances to the Project) as Landlord may, in the exercise of sound business judgment, deem to be appropriate ("**Landlord Alterations**"); provided, however that Landlord shall give Tenant written notice at least ten (10) business days prior to the commencement of any Landlord Alterations and Landlord shall not unreasonably interfere with Tenant's access, use and enjoyment of the Leased Premises, Building or Top Roof Deck. Notwithstanding the foregoing, any Landlord Alterations that would materially impact Tenant's access, use and enjoyment of the Leased Premises, the Building or the Building Top Roof Deck shall require Tenant's written approval, in its sole and absolute discretion; however, any Landlord Alterations that are necessitated to comply with laws or to maintain or repair the Building or the Project as required of Landlord under this Lease shall not require Tenant's consent.

2.5 Roof Deck Premises. Tenant shall have exclusive access and use of the Building Top Roof Deck, subject to Landlord's right of entry as set forth in Section 5.11 below. Tenant's planned uses of the Building Top Roof Deck are subject to Tenant obtaining all necessary governmental approvals and permits, if any, as well as Landlord's prior written approval, which approval shall not be unreasonably withheld. Tenant shall maintain the Building Top Roof Deck in a clean, attractive and orderly condition and Tenant shall not commit any waste in or upon the Building Top Roof Deck.

Article III

Term, Use and Rent

3.1 Term. Except as otherwise provided in this Lease, the Term shall commence upon the Term Commencement Date, and unless sooner terminated, shall end on the Term Expiration Date. Subject to Landlord's reasonable security precautions and factors beyond the reasonable control of Landlord, Tenant shall have access to the Leased Premises twenty-four (24) hours per day, seven (7) days per week, and fifty-two (52) weeks per year. Any entry and possession of the Leased Premises by Tenant prior to the Term Commencement Date shall be on all terms and conditions of the Lease, except that the obligation to pay Base Rent and Tenant's Proportionate Share of Basic Operating Costs shall commence on the Rent Commencement Date.

3.2 Use of the Office Premises. Tenant shall use the Office Premises solely for the Permitted Use and for no other use or purpose. Tenant shall not commit waste, overload the Building's structure or the Building's systems or subject the Leased Premises to any use that would materially damage the Leased Premises, normal wear and tear excepted. Tenant shall maintain a ratio of not more than one Occupant (defined as employees and contractors of Tenant working at the Office Premises) for each two hundred fifty (250) rentable square feet of the Office Premises. Tenant acknowledges that increased numbers of Occupants causes additional wear and tear on the Office Premises and the Building systems. Tenant's failure to comply with the requirements of this Section 3.2 shall constitute an event of default under Section 7.8 and Landlord shall have the right, in addition to any other remedies it may have at law or equity, to specifically enforce Tenant's obligations under this Section 3.2.

3.3 Base Rent.

(a) Tenant shall pay the Base Rent to Landlord in accordance with the schedule set forth on the Basic Lease Information sheet and in the manner described below. Tenant shall prepay **$149,068.75** of Base Rent (for the first (1st) month of the Term that Base Rent is payable after the Base Rent Abatement Period expires) upon execution of this Lease (the "**Prepaid Rent**"). Tenant shall pay the Net Rent (consisting of Base Rent plus, when applicable in accordance with Section 3.4 below, Tenant's Proportionate Share of Basic Operating Costs) in monthly installments on or before the first day of each calendar month during the Term and any extensions or renewals thereof, in advance without demand and, except as set forth herein, without any reduction, abatement, counterclaim or setoff, in lawful money of the United States at Landlord's address specified on the Basic Lease Information sheet or at such other address as may be designated by Landlord in the manner provided for giving notice under Section 9.11 hereof.

(b) If the Term commences on other than the first day of a month, then the Base Rent provided for such partial month shall be prorated based upon a thirty (30)-day month. If the Term terminates on other than the last day of a calendar month, then the Net Rent provided for such partial month shall be prorated based upon a thirty (30)-day month and the prorated installment shall be paid on the first day of the calendar month in which the date of termination occurs.

3.4 Tenant's Proportionate Share of Basic Operating Costs.

(a) Commencing on the Rent Commencement Date and continuing through the remainder of the Term, Tenant shall pay to Landlord Tenant's Proportionate Share of Basic Operating Costs.

(b) During the first Computation Year, on or before the first day of each month during such Computation Year, Tenant shall pay to Landlord one-twelfth (1/12th) of Landlord's estimate of the amount payable by Tenant under Section 3.4(a) as set forth in Landlord's written notice to Tenant delivered prior to the Rent Commencement Date. During the last month of each Computation Year (or as soon thereafter as practicable), Landlord shall give Tenant notice of Landlord's estimate of the amount payable by Tenant under Section 3.4(a) for the following Computation Year. On or before the first day of each month during the following Computation Year, Tenant shall pay to Landlord one-twelfth (1/12) of such estimated amount, provided that if Landlord fails to give such notice in the last month of the prior year, then Tenant shall continue to pay on the basis of the prior year's estimate until the first day of the calendar month next succeeding the date such notice is given by Landlord; and from the first day of the calendar month following the date such notice is given, Tenant's payments shall be adjusted so that the estimated amount for that Computation Year will be fully paid by the end of that Computation Year. If at any time or times Landlord reasonably determines that the amount payable under Section 3.4(a) for the current Computation Year will vary from its estimate given to Tenant, Landlord, by notice to Tenant, may revise its estimate for such Computation Year, and subsequent payments by Tenant for such Computation Year shall be based upon such revised estimate.

(c) Following the end of each Computation Year, Landlord shall deliver to Tenant a statement of amounts payable under Section 3.4(a) for such Computation Year. If such statement shows an amount owing by Tenant that is less than the payments for such Computation Year previously made by Tenant, and if no event of default (as defined below) is outstanding at the time such statement is delivered, Landlord shall credit such amount to the next payment(s) of Net Rent falling due under this Lease. If such statement shows an amount owing by Tenant that is more than the estimated payments for such Computation Year previously made by Tenant, Tenant shall pay the deficiency to Landlord within thirty (30) days after delivery of such statement. The respective obligations of Landlord and Tenant under this Section 3.4(c) shall survive the Term Expiration Date, and, if the Term Expiration Date is a day other than the last day of a Computation Year, the adjustment in Tenant's Proportionate Share of Basic Operating Costs pursuant to this Section 3.4(c) for the Computation Year in which the Term Expiration Date occurs shall be prorated in the proportion that the number of days in such Computation Year preceding the Term Expiration Date bears to three hundred sixty-five (365).

(1) If, within ninety (90) days of Tenant's receipt of Landlord's statement, Tenant notifies Landlord that Tenant desires to audit or review Landlord's statement, Landlord shall cooperate with Tenant to permit such audit or review during normal business hours. Landlord shall make available in the San Francisco Bay Area at Landlord's, or at Landlord's election at Landlord's property manager's, place of business, such books and records as are reasonably necessary for Tenant to conduct and complete such audit. Tenant shall have the right to examine and make copies of such books and records at Tenant's sole cost and expense. Tenant shall bear all other costs and expenses associated with Tenant's audit (including fees of Tenant's auditor), unless such audit shall conclude that Tenant was overcharged by an amount in excess of three percent (3%) of the amount charged to Tenant hereunder as Tenant's Proportionate Share of Basic Operating Costs, in which event Landlord shall bear the reasonable out-of-pocket costs of the audit up to a maximum amount of $5,000.00.

(2) Within ten (10) business days of completion of the audit, if Tenant desires to challenge Landlord's statement, then Tenant shall provide Landlord with a copy of Tenant's auditor's report. Within twenty (20) days of Landlord's receipt of Tenant's auditor's report, Landlord shall notify Tenant as to whether Landlord agrees or disagrees with the conclusions reached in Tenant's auditor's report. Landlord's failure to respond (where such failure continues for three (3) business days after Landlord's receipt of a notice that Landlord failed to respond within such twenty (20) day period) shall be deemed to constitute an agreement with the Tenant's auditor's report. After Landlord's notice, Landlord and Tenant shall endeavor to resolve any disagreements regarding Tenant's auditor's report. If Landlord and Tenant are unable to resolve such disagreement regarding Tenant's auditor's report within twenty (20) business days of the completion of such audit, then Landlord and Tenant shall submit the matter to an independent audit conducted by an independent nationally recognized accounting firm or a nationally recognized real estate management or consulting firm that has been mutually selected by Tenant and Landlord. If Landlord and Tenant fail to agree upon and appoint such auditor/arbitrator, then the appointment shall be made by Judicial Arbitration and Mediation Services ("**JAMS**"). The results of such independent audit shall be conclusive and binding upon Landlord and Tenant. In the event Tenant's audit reveals a discrepancy in Tenant's favor, and Landlord agrees with the conclusions of Tenant's auditor, or in the event that the independent audit determines a discrepancy in Tenant's favor, then Landlord shall credit the amount of such discrepancy to the next payment(s) of Net Rent falling due under this Lease. In the event such audit reveals a discrepancy in Landlord's favor, Tenant shall pay the amount of the discrepancy to Landlord within ten (10) business days of completion of the audit. Any such audit may only be conducted by an independent nationally recognized accounting firm or a nationally recognized real estate management or consulting firm that is not being compensated by Tenant on a contingency fee basis.

(3) The failure of Tenant to notify Landlord that Tenant desires an audit within ninety (90) days of Tenant's receipt of Landlord's statement under this Section 3.4(c) shall constitute an acceptance by Tenant of Landlord's statement and a waiver by Tenant of its right to audit for such Computation Year. If Tenant commences an audit in accordance with this Section 3.4(c), then such audit and the Tenant's auditor's report must be completed within forty-five (45) days of Landlord's books and records reasonably requested by Tenant's auditor being made available by Landlord. Failure of Tenant to complete the audit within such forty-five (45) day period shall constitute an acceptance by Tenant of Landlord's statement for such Computation Year unless such failure was caused by the failure of Landlord to make its books and records available to Tenant as required under this Section 3.4.

(d) Landlord shall have the same remedies for a default in the payment of Tenant's Proportionate Share of Basic Operating Costs as for a default in the payment of Base Rent.

3.5 Basic Operating Costs.

(a) Basic Operating Costs shall mean all expenses and costs (but not specific costs which are separately billed to and paid by particular tenants of the Project) of every kind and nature which Landlord shall pay or become obligated to pay because of or in connection with the management, ownership, maintenance, repair, replacement, preservation and operation of the Leased Premises, the Building, the Project and its supporting facilities directly servicing the Building and/or the Project (determined in accordance with generally accepted accounting principles, consistently applied) including, but not limited to, the following:

(1) Fair market wages, salaries and related expenses and benefits of all employees and personnel engaged in the operation, maintenance, repair and security of the Project (prorated based on the percentage of time spent working for the Project) that are normally incurred by owners of Comparable Buildings (as defined in Section 8.1) providing comparable services.

(2) Intentionally Omitted.

(3) All supplies, materials, equipment and equipment rental to the extent specifically used in the operation, maintenance, repair, replacement and preservation of the Project.

(4) Intentionally Omitted.

(5) All maintenance and service agreements for the Project, including, without limitation, HVAC Maintenance and Elevator Maintenance (as such terms are defined in Section 5.4 below, however only to the extent Landlord, and not Tenant, is maintaining), exterior window cleaning, landscaping, pest control, and roof maintenance (provided, however, that Tenant shall employ (i) its own bonded and reputable janitorial service, subject to Landlord's reasonable prior written approval, to clean the Leased Premises, at Tenant's sole cost and expense), and (ii) its own refuse collection [the foregoing janitorial expenses and refuse collection for the Leased Premises shall be paid by Tenant separately and shall not be part of Basic Operating Costs]).

(6) A property management fee in an amount not to exceed three percent (3%) of all gross revenues derived from the Project.

(7) Legal and accounting services for the Project, including the costs of audits by certified public accountants; provided, however, that legal expenses shall not include the cost of lease negotiations, termination of leases, extension of leases or legal costs incurred in proceedings by or against any specific tenant, or for the defense of Landlord's legal title to the Project.

(8) All insurance premiums and costs, including, but not limited to, the cost of property and liability coverage and rental income and earthquake and flood insurance applicable to the Project and Landlord's personal property used in connection therewith, as well as deductible amounts applicable to such insurance; provided, however, that Landlord may, but shall not be obligated to, carry earthquake or flood insurance. Landlord may elect to self-insure for the coverages required herein; provided, however, Landlord may not self-insure unless it has a net worth of at least $500,000,000.00. Any undertaking by Landlord to self-insure with respect to some or all the insurance coverage otherwise required to be maintained by Landlord under this Lease will not adversely affect Tenant, and Tenant will be protected against loss or damage in the same manner as if Landlord had obtained separate insurance as provided herein (including the equivalent of any benefits Tenant would have received from additional insured status under a third-party insurance policy). A non-Affiliate assignee of Landlord may not self-insure without the prior written approval of Tenant, which approval will not be unreasonably withheld.

(9) Repairs, replacements and general maintenance (except to the extent paid by proceeds of insurance or by Tenant or other tenants of the Project or third parties).

(10) All real estate or personal property taxes, possessory interest taxes, business or license taxes or fees, service payments in lieu of such taxes or fees, annual or periodic license or use fees, excises, transit charges, housing fund assessments, open space charges, assessments, bonds, levies, fees or charges, general and special, ordinary and extraordinary, unforeseen as well as foreseen, of any kind which are assessed, levied, charged, confirmed or imposed by any public authority upon the Project (or any portion or component thereof), its operations, this Lease, or the Rent due hereunder (or any portion or component thereof) (collectively "Project Taxes"), except: (i) inheritance or estate taxes imposed upon or assessed against the Project, or any part thereof or interest therein, and (ii) Landlord's personal or corporate income, gift or franchise taxes. Project Taxes shall not be subject to the property management fee set forth in Section 3.5(a)(6)).

(11) Amortized costs (together with reasonable financing charges) of capital improvements made to the Project subsequent to the Term Commencement Date which are primarily designed to achieve energy or carbon reduction or to reduce current or future Basic Operating Costs or otherwise improve the operating efficiency of the Building (and approved by Tenant in writing, in Tenant's reasonable discretion), or which may be required by governmental authorities, including, but not limited to, those improvements required for the benefit of individuals with disabilities (capital improvements made to the Project subsequent to the Term Commencement Date which may be required by governmental authorities shall not be subject to Tenant's approval), such amortization to be taken in accordance with generally accepted accounting principles.

(b) In the event any of the Basic Operating Costs are not provided on a uniform basis, Landlord shall make an appropriate and equitable adjustment, in Landlord's discretion reasonably exercised.

(c) Notwithstanding any other provision of this Lease to the contrary, in the event that the Building is not fully occupied during any year of the Term, an adjustment shall be made in computing Basic Operating Costs for such year so that Basic Operating Costs shall be computed as though the Building had been 95% occupied during such year.

(d) The following items shall be excluded from Basic Operating Costs: (i) depreciation on the Building and the Project; (ii) debt service or interest on debt or amortization payments on any mortgages or deeds of trust; (iii) rental under any ground or underlying lease; (iv) attorneys' fees and expenses incurred in connection with lease negotiations with prospective Building tenants or enforcement of leases; (v) the cost of any improvements or equipment which would be properly classified as capital expenditures (except for any capital expenditures expressly included in Section 3.5(a), including, without limitation, Section 3.5(a)(11)); (vi) the cost of decorating, improving for tenant occupancy, painting or redecorating portions of the Building to be demised to tenants; (vii) advertising and publicity expenditures; (viii) real estate brokers' or other leasing commissions and other similar payments; (ix) costs of restoration to the extent of net insurance proceeds received by Landlord with respect thereto; (x) repairs or other work occasioned by fire, windstorm or other casualty or damage to the extent Landlord is reimbursed by insurance; (xi) Landlords' reserve accounts; (xii) costs of correcting construction or latent defects in the Building; (xiii) costs of cleaning up or removing asbestos or hazardous materials not directly attributable to the activities of Tenant, its agents, employees or contractors; (xiv) costs incurred by Landlord due to the violation by Landlord of the terms and conditions of any lease of space in the Project; (xv) costs incurred in connection with upgrading the Building to comply with disability, life, fire and safety codes in effect prior to the Rent Commencement Date (unless such compliance is triggered by Tenant's Work or alterations or improvements performed by or for Tenant, in which case such compliance shall be Tenant's responsibility); (xvi) Landlord's general corporate overhead and general administrative expenses not related to the operation of the Building; (xvii) all compensation to executives, officers or partners of Landlord or to any other person at or above the level of property manager (or the person fulfilling the function of property manager, notwithstanding his or her actual title); (xviii) salaries of service personnel to the extent that such service personnel perform services not attributable to the management, repair or operation of the Building; (xix) the cost of any political or charitable donations or contributions; (xx) costs of purchasing, installing and replacing art work or decorative features; and (xxi) costs incurred by Landlord to appeal the amount of Project Taxes payable for the Project to the extent that Landlord does not receive a refund produced by such appeal.

Article IV

Landlord's Covenants

4.1 Basic Services. Tenant acknowledges that this Lease is a net lease, it being understood that Landlord shall receive the Base Rent specified in the Basic Lease Information sheet free and clear of any and all expenses, costs, impositions, taxes, assessments, liens or charges of any nature whatsoever, which shall be payable by Tenant unless otherwise set forth in this Lease. Accordingly, Tenant shall be solely responsible for and promptly pay the appropriate utility company directly for all water, gas, HVAC, light, power, telephone, and other utilities and services supplied to the Leased Premises for which there is a separate meter or submeter to the Leased Premises [if separate metering is available, Tenant shall pay for such separate metering] and Tenant shall pay Landlord for Tenant's share, as reasonably determined by Landlord, of all utilities and services furnished to the Leased Premises for which there is no separate meter or submeter, within thirty (30) days after billing by Landlord [the foregoing utility and service expenses for the Leased Premises shall be paid by Tenant separately and shall not be part of Tenant's Proportionate Share of Basic Operating Costs]). With respect to janitorial, Tenant shall employ its own bonded

and reputable janitorial service, subject to Landlord's reasonable prior written approval, to clean the Leased Premises on all business days (including, without limitation, cleaning and providing supplies for the restrooms and break rooms), at Tenant's sole cost and expense; and with respect to refuse collection, Tenant shall employ its own reputable refuse collection service, subject to Landlord's reasonable prior written approval, to collect refuse from the Leased Premises on all business days, at Tenant's sole cost and expense (the foregoing janitorial expenses and refuse collection for the Leased Premises shall be paid by Tenant separately and shall not be part of Tenant's Proportionate Share of Basic Operating Costs). Tenant shall also be responsible for fire/life safety monitoring of the Building and the applicable fees and costs; notwithstanding the foregoing, Tenant has requested that Landlord undertake the foregoing on behalf of Tenant and Tenant shall pay Landlord for the actual costs related to the fire/life safety monitoring of the Building and the applicable fees and costs within ten (10) days after billing by Landlord. Subject to inclusion in Basic Operating Costs, Landlord agrees to furnish Tenant only with the following services: maintenance, repair and replacement of all Building systems (including without limitation, fire/life safety systems, mechanical, electrical, and plumbing systems), structural portions of the Building, including the structural walls, exterior walls, foundation and roof of the Building (not including the Roof Deck Premises), exterior window cleaning, landscaping, parking lot lighting, and sidewalk and parking lot cleaning and sweeping, all of the foregoing in the manner and to the extent reasonably determined by Landlord to be consistent with those standards of Comparable Buildings (as defined below). Notwithstanding anything in this Lease to the contrary, Tenant's use of electrical service shall not exceed, either in voltage, rated capacity, or overall load, its pro-rata share of the Building capacity. Except as specifically set forth in this Lease or to the extent caused by any negligence, willful misconduct or breach of this Lease by Landlord, Landlord shall not be liable for damages to either person or property, nor shall Landlord be deemed to have evicted Tenant, nor shall there be any abatement of Rent, nor shall Tenant be relieved from performance of any covenant on its part to be performed under this Lease by reason of any (i) deficiency in the provision of basic services; (ii) breakdown of equipment or machinery utilized in supplying services; or (iii) curtailment or cessation of services due to causes or circumstances beyond the reasonable control of Landlord or by the making of the necessary repairs or improvements. Landlord shall use reasonable diligence to make such repairs as may be required to machinery or equipment within the Project to provide restoration of services and, where the cessation or interruption of service has occurred due to circumstances or conditions beyond Project boundaries, to cause the same to be restored, by diligent application or request to the provider thereof.

Notwithstanding the foregoing or anything in this Lease to the contrary, if any such deficiency, breakdown, or curtailment described above is within the reasonable control of Landlord to correct and continues for five (5) or more consecutive business days after Landlord becomes aware thereof, whether by Tenant's written notice to Landlord thereof or otherwise, and Tenant is unable to reasonably conduct and does not conduct any business in a material portion of the Leased Premises as a result thereof including interference to Tenant's business, then Tenant shall be entitled to an abatement of Base Rent, which abatement shall commence as of the first day after the expiration of such five (5) business day period and terminate upon the cessation of such deficiency, breakdown, curtailment or interference and which abatement shall be based on the portion of the Leased Premises rendered unusable for Tenant's business by such deficiency, breakdown, curtailment or interference. The rental abatement rights set forth above shall be inapplicable to any interruption, failure or inability described in this grammatical paragraph that is caused by (i) damage from fire or other casualty (it being acknowledged that such situation shall be governed by Section 7.7 below), or (ii) to any deficiency, breakdown, or curtailment caused by the negligence or willful misconduct of Tenant or its agents, employees or contractors.

4.2 Extra Services. The cost chargeable to Tenant for all extra services requested by Tenant in writing and provided by Landlord, if any, shall constitute Additional Rent and shall include a management fee payable to Landlord of five percent (5%) (extra services shall not be subject to an additional property management fee set forth in Section 3.5(a)(6)). Additional Rent shall be paid monthly by Tenant to Landlord concurrently with the payment of Base Rent.

4.3 Window Coverings. All window coverings for the Office Premises shall be those approved by Landlord, in its reasonable discretion not to be reasonably withheld, conditioned or delayed. Tenant shall not place or maintain any window coverings, blinds, curtains or drapes other than those approved by Landlord on any exterior window without Landlord's prior written approval, which Landlord shall have the right to grant or withhold in its reasonable discretion not to be reasonably withheld, conditioned or delayed. Notwithstanding anything to the contrary herein, Landlord hereby conceptually approves Tenant's right to install window coverings to block visual monitoring of the Leased Premises and/or control the temperature and sunlight entering the Leased Premises through the windows.

4.4 Graphics and Signage. All signs, notices, advertisements and graphics of every kind or character, visible in or from the exterior of the Leased Premises shall be subject to Landlord's prior written reasonable approval, which Landlord approval shall not be unreasonably withheld, conditioned or delayed. Landlord may remove, upon reasonable prior written notice to Tenant and at the expense of Tenant, any sign, notice, advertisement or graphic of any kind inscribed, displayed or affixed in violation of the foregoing requirement. All approved signs, notices, advertisements or graphics shall be printed, affixed or inscribed at Tenant's expense by a sign company selected by or approved by Landlord. Landlord shall be entitled to revise the Project graphics and signage standards at any time. The location, design, content and size of any signage shall be subject to Landlord's reasonable approval as well as the approval of the City of Emeryville. Tenant shall remove Tenant's signs and repair any damage caused by the installation or removal of such signage and shall restore the area of such signage to the condition existing prior to installation of the signs at the expiration or earlier termination of this Lease. Installation, fabrication, maintenance and removal of Tenant's signs shall be at Tenant's sole cost and expense.

4.5 Intentionally deleted.

4.6 Repair Obligation. Landlord's obligation under this Lease with respect to maintenance, repair, and replacement shall be limited to the items set forth in Section 4.1 above. However, Landlord shall not have any obligation to repair actual damage directly caused by Tenant, its agents, employees, contractors, invitees or licensees, unless otherwise excepted under this Lease. Landlord shall have the right, but not the obligation, to undertake work of repair which Tenant is required to perform under this Lease or which Landlord deems necessary, in Landlord's reasonable discretion, including, but not limited to, the painting and refinishing of the exterior areas of the Building and Project, so as to impede, to the extent possible, deterioration by ordinary wear and tear and to keep the same in attractive condition, and which Tenant fails or refuses to perform in a timely and efficient manner after Tenant's receipt of written notice. Tenant shall

reimburse Landlord upon demand, as Additional Rent, for all costs incurred by Landlord in performing any such repair for the account of Tenant, together with an amount equal to five percent (5%) of such costs to reimburse Landlord for its administration and managerial effort (the foregoing costs incurred by Landlord in performing any such repair for the account of Tenant shall not be subject to an additional property management fee set forth in Section 3.5(a)(6)). Except as specifically set forth in this Lease, Landlord shall have no obligation whatsoever to maintain or repair the Leased Premises or the Project. The parties intend that the terms of this Lease govern their respective maintenance and repair obligations. Tenant expressly waives the benefit of any statute now or hereafter in effect to the extent it is inconsistent with the terms of this Lease with respect to such obligations or which affords Tenant the right to make repairs at the expense of Landlord or terminate this Lease by reason of the condition of the Leased Premises or any needed repairs. All costs in performing the work described in this Section 4.6 shall be included in Basic Operating Costs.

4.7 Peaceful Enjoyment. Landlord covenants with Tenant that upon Tenant paying the Rent and all other charges required under this Lease and performing all of Tenant's covenants and agreements herein contained, Tenant shall peacefully have, hold and enjoy the Leased Premises subject to all of the terms of this Lease and to any deed of trust, mortgage, ground lease or other agreement to which this Lease may be subordinate. This covenant and the other covenants of Landlord contained in this Lease shall be binding upon Landlord and its successors only with respect to breaches occurring during its or their respective ownerships of Landlord's interest hereunder.

Article V

Tenant's Covenants

5.1 Payments by Tenant. Tenant shall pay Rent at the times and in the manner provided in this Lease. All obligations of Tenant hereunder to make payments to Landlord shall constitute Rent and failure to pay the same when due shall give rise to the rights and remedies provided for in Section 7.8.

5.2 Tenant's Work. Tenant's Work, if any, shall be installed and constructed pursuant to **Exhibit B**.

5.3 Taxes on Personal Property. In addition to, and wholly apart from its obligation to pay Tenant's Proportionate Share of Basic Operating Costs, Tenant shall be responsible for, and shall pay prior to delinquency, all taxes or governmental service fees, possessory interest taxes, fees or charges in lieu of any such taxes, capital levies, and any other charges imposed upon, levied with respect to, or assessed against Tenant's personal property, and on its interest pursuant to this Lease. To the extent that any such taxes are not separately assessed or billed to Tenant, Tenant shall pay the amount thereof as invoiced to Tenant by Landlord.

5.4 Repairs by Tenant.

(a) Tenant shall be obligated to maintain and repair, at Tenant's sole cost and expense, the Leased Premises (except the items that are Landlord's responsibility to maintain and repair) and Tenant's personal property, trade fixtures and any improvements or alterations installed by or on behalf of Tenant), to keep the same at all times in good order, condition and repair, and, upon expiration of the Term, to surrender the same to Landlord in the same condition as on the Term Commencement Date, reasonable wear and tear, taking by condemnation, and damage by casualty not caused by Tenant, its agents, employees, contractors, invitees and licensees excepted. Tenant's obligations shall include, without limitation, the obligation to maintain and repair all walls, floors, ceilings and fixtures and to repair all damage caused by Tenant, its agents, employees, contractors, invitees and others using the Leased Premises with Tenant's expressed or implied permission. At the request of Tenant, but without obligation to do so, Landlord may perform the work of maintenance and repair constituting Tenant's obligation under this Section 5.4 at Tenant's sole cost and expense and as an extra service to be rendered pursuant to Section 4.2. Any work of repair and maintenance performed by or for the account of Tenant by persons other than Landlord shall be performed by contractors approved by Landlord and in accordance with procedures Landlord shall from time to time reasonably establish. Tenant shall give Landlord prompt notice of any damage to or defective condition in any part of the mechanical, electrical, plumbing, fire/life safety or other system servicing or located in the Leased Premises. As set forth in Section 4.1, Landlord shall be responsible for the repair and maintenance of the structural parts of the Building, including structural walls, exterior walls, structural portions of the floors of the Building, foundation and roof of the Building (except for structural improvements performed by or for Tenant).

(b) Notwithstanding anything in this Lease to the contrary, Tenant shall enter into and continue in force throughout the term of this Lease a regularly scheduled (at least once every three (3) months) preventive maintenance/service contract, with a maintenance contractor approved by Landlord, for servicing all HVAC units serving the Leased Premises ("**HVAC Maintenance**"), and Tenant shall promptly provide Landlord a copy of the contract and all quarterly service reports and other service reports. The service contract must include, at a minimum, all services suggested by the equipment manufacturer. Tenant shall be responsible for any repair, replacement and maintenance of the HVAC units serving the Leased Premises and shall surrender the HVAC units on the Term Expiration Date (or earlier termination of this Lease) in good working order with no deferred maintenance. Notwithstanding the foregoing, Tenant has requested that Landlord undertake the HVAC Maintenance on behalf of Tenant and Tenant shall pay Landlord for the actual costs related to the HVAC Maintenance, including without limitation the repair or replacement of parts and equipment within ten (10) days after billing by Landlord; Landlord has agreed to undertake the HVAC Maintenance on behalf of Tenant.

(c) Notwithstanding anything in this Lease to the contrary, Tenant shall enter into and continue in force throughout the term of this Lease a regularly scheduled preventive maintenance/service contract, with a maintenance contractor approved by Landlord, for servicing the Building elevator system ("**Elevator Maintenance**"). The service contract shall include, at a minimum, all services suggested by the equipment manufacturer. Since Tenant is the sole user of the Building elevator system, Tenant shall pay for all costs related to Elevator Maintenance, including without limitation the repair or replacement of parts and equipment. Notwithstanding the foregoing, Tenant has requested that Landlord undertake the Elevator Maintenance on behalf of Tenant and Tenant shall pay Landlord for the actual costs related to the Elevator Maintenance, including without limitation the repair or replacement of parts and equipment within ten (10) days after billing by Landlord; Landlord has agreed to undertake the Elevator Maintenance on behalf of Tenant.

(d) Notwithstanding anything to the contrary set forth in this Lease, in the event that the originally named Tenant in this Lease develops the capacity and facilities management expertise necessary to perform facilities management of the Leased Premises in accordance with prevailing industry standards and can provide reasonable evidence to Landlord of such capacity, the originally named Tenant in this Lease may elect (on any January 1 during the Term of this Lease by providing Landlord at least sixty (60) days prior written notice of such election) to assume the obligations of Landlord under service contracts for HVAC Maintenance, Elevator Maintenance and fire/life safety monitoring and pay such costs directly to the providers of those services. During all periods following any such election by Tenant, Tenant shall maintain records of its performance of its maintenance obligations under this Lease and shall provide reasonable access to Landlord to inspect such maintenance records, and, with respect to Tenant's payment obligations under this Lease, Landlord shall adjust Basic Operating Costs and/or Additional Rent payable by Tenant accordingly.

5.5 Waste. Tenant shall not commit or allow any waste or damage to be committed in any portion of the Leased Premises or the Project.

5.6 Assignment or Sublease.

(a) Tenant shall not voluntarily or by operation of law assign, transfer or encumber (collectively "**Assign**") or sublet all or any part of Tenant's interest in this Lease or in the Leased Premises, or allow any third party to use any portion of the Leased Premises (which for purposes of the balance of this Section 5.6 shall be deemed to be a "sublet" or "sublease" of the Leased Premises), without Landlord's prior written consent given under and subject to the terms of this Section 5.6. Tenant may not sublease the Roof Deck Premises separately from the Office Premises.

(b) If Tenant desires to Assign this Lease or any interest herein or sublet the Leased Premises or any part thereof, Tenant shall give Landlord a request for consent to such transaction, in writing. Tenant's written request for consent shall specify the date the proposed assignment or sublease would be effective and be accompanied by information pertinent to Landlord's determination as to the financial and operational responsibility and appropriateness of the proposed assignee or subtenant, including, without limitation, its name, business and financial condition, financial details of the proposed transfer, the intended use (including any modification) of the Leased Premises, and exact copies of all of the proposed agreement(s) between Tenant and the proposed assignee or subtenant. Tenant shall promptly provide Landlord with (i) such other or additional information or documents reasonably requested (within ten (10) days after receiving Tenant's consent request) by Landlord, and (ii) an opportunity to meet and interview the proposed assignee or subtenant, if requested by Landlord.

(c) Landlord shall have until the later of (x) ten (10) business days following such interview and receipt of all such additional information and (y) thirty (30) days from the date of Tenant's original notice if Landlord does not request additional information or an interview, within which to notify Tenant in writing that Landlord elects either (i) to terminate this Lease as

to the space so affected as of the effective date of the proposed assignment or sublease specified by Tenant, in which event Tenant will be relieved of all further obligations hereunder as to such space as of such date, other than those obligations which survive termination of the Lease, or (ii) to consent to or withhold consent to Tenant's request to Assign this Lease or sublet such space, such consent not to be withheld so long as the proposed assignee or sublessee is approved by Landlord and is of sound financial condition as determined by Landlord in its absolute and sole discretion, the use of the Leased Premises by such proposed assignee or sublessee would be a Permitted Use, the proposed assignee or sublessee executes such reasonable assumption documentation as Landlord shall require, and the proposed assignee or sublessee is not (x) already a tenant in the Building or (y) a party with whom Landlord has been discussing the leasing of space in the Building. Failure by Landlord to approve a proposed subtenant or assignee shall not cause a termination of this Lease.

(d) In the event Tenant shall request the consent of Landlord to any assignment or subletting hereunder, Tenant shall pay Landlord a processing fee of $2,500.00 and such fee shall be deemed Additional Rent under this Lease.

(e) Any rent or other consideration realized by Tenant under any such sublease or assignment in excess of (i) the proportionate Rent payable for the applicable subleased space, (ii) any reasonable tenant improvement allowance or other economic concession (e.g., space planning allowance, moving expenses, free or reduced rent periods, etc.), and (iii) any advertising costs and brokerage commissions associated with such assignment or sublease ("**Profit**"), shall be divided and paid as follows: fifty percent (50%) to Tenant and fifty percent (50%) to Landlord; provided, however, that if Tenant is in default hereunder beyond any applicable cure period, Landlord shall be entitled to all such Profit.

(f) In any subletting undertaken by Tenant, Tenant shall use commercially reasonable efforts to obtain not less than fair market rent for the space to be sublet. In any assignment of this Lease in whole or in part, Tenant shall seek to obtain from the assignee consideration reflecting a value of not less than fair market rent for the space subject to such assignment.

(g) The consent of Landlord to any assignment or subletting shall not constitute a consent to any subsequent assignment or subletting by Tenant or to any subsequent or successive assignment or subletting by the assignee or subtenant.

(h) No assignment or subletting by Tenant shall relieve Tenant of any obligation under this Lease. In the event of default by an assignee or subtenant of Tenant or any successor of Tenant in the performance of any of the terms hereof, Landlord may proceed directly against Tenant without the necessity of exhausting remedies against such assignee, subtenant or successor. Any assignment or subletting made without Landlord's consent or which conflicts with the provisions hereof shall be void and, at Landlord's option, shall constitute a default under this Lease.

(i) Notwithstanding anything to the contrary contained in this Lease, Tenant may (with ten (10) business days' prior written notice to Landlord) assign this Lease or sublet the Leased Premises, without Landlord's consent (or sharing of Profit, or recapture right by Landlord), to any entity controlling, controlled by, or under common control with Tenant, or to a successor of Tenant resulting from a merger or consolidation of Tenant, or to the purchaser of all or substantially all of Tenant's assets or stock (each, a "**Permitted Transfer**"); provided, however, that (i) no such assignment, sublease, or change of control shall relieve Tenant from any liability under this Lease, whether accrued to the date of such assignment, sublease, or change of control, or thereafter accruing (unless Tenant is a "disappearing" entity in a transaction otherwise allowed hereunder, except if such transaction(s) is/are entered into to evade Tenant's obligations hereunder), (ii) if an assignment or sublease, such assignee or sublessee expressly assumes, in writing, all of Tenant's obligations under this Lease, in form and content reasonably acceptable to Landlord (except, as between a sublessee and Tenant, for the specific business deal between Tenant and such sublessee), and (iii) no series of one or more of such transactions shall be used by Tenant to "spin off" this Lease to independent third parties if such transactions are entered into to evade Tenant's obligations hereunder, and (iv) Tenant shall give Landlord ten (10) business days' prior written notice of any such transaction not requiring Landlord's consent (or if Tenant is unable to disclose an impending transaction due to legal requirements, then Tenant shall notify Landlord in writing within five (5) days after the transaction). In addition, any change in the controlling interest in the stock of Tenant as a result of an initial public offering of Tenant's stock, and any transfer of the capital stock of Tenant by persons or parties through the "over the counter market" or through any recognized stock exchange, shall not be deemed to be an assignment or transfer requiring Landlord's consent.

5.7 Alterations, Additions and Improvements.

(a) Except as set forth in **Exhibits B** and **B-1**, Tenant shall not make or allow to be made any alterations, additions or improvements in or to the Leased Premises without first obtaining the written consent of Landlord, provided that Tenant shall be permitted, without Landlord's consent, to make non-structural alterations or additions to the Leased Premises that do not affect any of the Building systems, cost less than $25,000.00 in the aggregate per project, or $50,000.00 in the aggregate per calendar year, do not require a building permit, and are of a cosmetic nature (e.g., painting, carpeting, etc.; any such alteration complying with all of the foregoing constituting a "**Cosmetic Alteration**"). Landlord's consent will not be unreasonably withheld, conditioned or delayed with respect to proposed alterations, additions or improvements which (i) comply with all applicable laws, ordinances, rules and regulations; (ii) are compatible with and do not adversely affect the Building and its mechanical, telecommunication, electrical, HVAC and fire/life safety systems; (iii) will not affect the structural or exterior portions of the Building; and (iv) will not trigger any material costs to Landlord. Specifically, but without limiting the generality of the foregoing, Landlord's right of consent shall encompass plans and specifications for the proposed alterations, additions or improvements, construction means and methods, the identity of any contractor or subcontractor to be employed on the work of alterations, additions or improvements, and the time for performance of such work. Tenant shall supply to Landlord any additional documents and information requested by Landlord in connection with Tenant's request for consent hereunder. If Tenant performs any alterations or additions permitted under this Section 5.7, Tenant shall, in addition to complying with the provisions of this Section 5.7, perform such alterations or additions in a manner that avoids disturbing any asbestos containing materials present in the Building. If asbestos containing materials are likely to be disturbed in the course of such work, Tenant shall encapsulate or remove the asbestos containing materials in accordance with an asbestos-removal plan approved by Landlord and otherwise in accordance with all applicable laws.

(b) Any consent given by Landlord under this Section 5.7 shall be deemed conditioned upon: (i) Tenant's acquiring all applicable permits required by governmental authorities; (ii) Tenant's furnishing to Landlord copies of such permits, together with copies of the approved plans and specifications, prior to commencement of the work thereon; and (iii) the compliance by Tenant with the conditions of all applicable permits and approvals in a prompt and expeditious manner.

(c) Tenant shall provide Landlord with not less than fifteen (15) days prior written notice of commencement of the work so as to enable Landlord to post and record appropriate notices of non-responsibility. Except as set forth in **Exhibits B** and **B-1**, all alterations, additions and improvements permitted hereunder shall be made and performed by Tenant without cost or expense to Landlord and in strict accordance with plans and specifications approved by Landlord. Tenant shall pay the contractors and suppliers all amounts due to them when due and keep the Leased Premises and the Project free from any and all mechanics', materialmen's and other liens and claims arising out of any work performed, materials furnished or obligations incurred by or for Tenant. Landlord may require, at its sole option, that Tenant provide to Landlord, at Tenant's expense, a lien and completion bond in an amount equal to the total estimated cost of any alterations, additions or improvements to be made in or to the Leased Premises, to protect Landlord against any liability for mechanics', materialmen's and other liens and claims, and to ensure timely completion of the work. In the event any alterations, additions or improvements to the Leased Premises are performed by Landlord hereunder, whether by prearrangement or otherwise, Landlord shall be entitled to charge Tenant a five percent (5%) administration fee in addition to the actual costs of labor and materials provided. Such costs and fees shall be deemed Additional Rent under this Lease, and may be charged and payable prior to commencement of the work.

(d) Any and all alterations, additions or improvements made to the Leased Premises by Tenant shall become the property of Landlord upon installation and shall be surrendered to Landlord without compensation to Tenant upon the termination of this Lease by lapse of time or otherwise unless (i) Landlord conditioned its approval of such alterations, additions or improvements on Tenant's agreement to remove them, or (ii) if Tenant did not provide a Removal Determination Request (as defined below), Landlord notifies Tenant prior to (or promptly after) the Term Expiration Date that the alterations, additions and/or improvements must be removed, in which case Tenant shall, by the Term Expiration Date, remove such alterations, additions and improvements (which includes, without limitation, Tenant's Work), repair any damage resulting from such removal and restore the Leased Premises to their condition existing prior to the date of installation of such alterations, additions and improvements, ordinary wear and tear excepted. Prior to making any alterations, additions or improvements to the Leased Premises, Tenant may make a written request that Landlord determine in advance whether or not Tenant must remove such alterations, additions or improvements on or prior to the Term Expiration Date or any earlier termination of this Lease ("**Removal Determination Request**"). Notwithstanding anything to the contrary set forth above, this clause shall not apply to movable equipment or furniture owned by Tenant. Tenant shall repair, at its sole cost and expense, all damage caused to the Leased Premises and the Project by removal of Tenant's movable equipment or furniture and such other alterations, additions and improvements as Tenant shall be required or allowed by Landlord to remove from the Leased Premises.

(e) All alterations, additions and improvements permitted under this Section 5.7 shall be constructed diligently, in a good and workmanlike manner with new, good and sufficient materials and in compliance with all applicable laws, ordinances, rules and regulations (including, without limitation, building codes and those related to accessibility and use by individuals with disabilities). Tenant shall, promptly upon completion of the work, furnish Landlord with "as built" drawings for any alterations, additions or improvements performed under this Section 5.7.

(f) Notwithstanding anything in this Lease to the contrary, Tenant shall construct all alterations, additions and improvements and perform all repairs and maintenance under this Lease (all contractors to be approved in writing in advance by Landlord or, at Landlord's option, designated by Landlord) in conformance with any and all applicable laws, including, without limitation, pursuant to a valid building permit issued by the applicable municipality, in conformance with Landlord's construction rules and regulations.

(g) All alterations, additions and improvements permitted under this Section 5.7 shall be completed using Building standards and all vendors (including, without limitation, Tenant's cabling contractors and subcontractors) accessing areas above the ceiling grid shall be certified to work in an asbestos containing setting.

(h) Tenant shall have the right to install a wireless intranet, internet, and communications network (also known as "**Wi-Fi**") within the Leased Premises for the use of Tenant and its employees (the "**Network**") subject to this subsection and all the other clauses of this Lease as are applicable. Tenant shall not solicit, suffer, or permit other tenants or occupants of the Building to use the Network or any other communications service, including, without limitation, any wired or wireless internet service that passes through, is transmitted through, or emanates from the Leased Premises. Tenant agrees that Tenant's communications equipment and the communications equipment of Tenant's service providers located in or about the Leased Premises, including, without limitation, any antennas, switches, or other equipment (collectively, "**Tenant's Communications Equipment**") shall be of a type and, if applicable, a frequency that will not cause material radio frequency, electromagnetic, or other interference to any other party or any equipment of Landlord at the Building. In the event that Tenant's Communications Equipment causes or is believed to cause any such material interference, upon receipt of notice from Landlord of such interference, Tenant will take commercially reasonable steps necessary, at Tenant's sole cost and expense, to mitigate the interference. If the interference is not mitigated within forty-eight (48) hours (or a shorter period if Landlord believes a shorter period to be appropriate) then, upon request from Landlord, Tenant shall shut down the Tenant's Communications Equipment pending resolution of the material interference, with the exception of intermittent testing upon prior notice to and with the approval of Landlord.

5.8 Compliance With Laws and Insurance Standards. Tenant shall not occupy or use, or permit any portion of the Leased Premises to be occupied or used in a manner that violates any applicable law, ordinance, rule, regulation, order, permit, covenant, easement or restriction of record, or the recommendations of Landlord's engineers or consultants, relating in any manner to the Project, or for any business or purpose which is disreputable, objectionable or productive of fire hazard.

Tenant shall not do or permit anything to be done which would result in the cancellation, or in any way increase the cost, of the property insurance coverage on the Project and/or its contents. If Tenant does or permits anything to be done which increases the cost of any insurance covering or affecting the Project, then Tenant shall reimburse Landlord, upon demand, as Additional Rent, for such additional costs. Landlord shall deliver to Tenant a written statement setting forth the amount of any such insurance cost increase and showing in reasonable detail the manner in which it has been computed. Tenant shall, at Tenant's sole cost and expense, comply with all laws, ordinances, rules, regulations and orders (state, federal, municipal or promulgated by other agencies or bodies having or claiming jurisdiction) related to the use, condition or occupancy of the Leased Premises now in effect or which may hereafter come into effect including, but not limited to, (a) accessibility and use by individuals with disabilities, and (b) environmental conditions in, on or about the Leased Premises. If anything done by Tenant in its specific and unique use or operation of the Leased Premises (as opposed to general office use or general research and development use as contemplated herein) after the Rent Commencement Date or alterations performed by or for Tenant shall create, require or cause imposition of any requirement by any public authority for structural or other upgrading of or alteration or improvement to the Project, Tenant shall, at Landlord's option, either perform the upgrade, alteration or improvement at Tenant's sole cost and expense or reimburse Landlord upon demand, as Additional Rent, for the cost to Landlord of performing such work. The judgment of any court of competent jurisdiction or the admission by Tenant in any action against Tenant, whether Landlord is a party thereto or not, that Tenant has violated any law, ordinance, rule, regulation, order, permit, covenant, easement or restriction shall be conclusive of that fact as between Landlord and Tenant.

5.9 No Nuisance; No Overloading. Tenant shall use and occupy the Leased Premises, and control its agents, employees, contractors, invitees and visitors in such manner so as not to create any nuisance, or interfere with, annoy or disturb (whether by noise, odor, vibration or otherwise) any other tenant or occupant of the Project or Landlord in its operation of the Project. Tenant shall not place or permit to be placed any loads upon the floors, walls or ceilings in excess of the maximum designed load specified by Landlord or which might damage the Leased Premises, the Building, or any portion thereof.

5.10 Furnishing of Financial Statements; Tenant's Representations. In order to induce Landlord to enter into this Lease, Tenant agrees that it shall promptly furnish Landlord, from time to time, within ten (10) days of receipt of Landlord's written request therefor (but no more than once each calendar year, unless requested by Landlord because of a bona fide financing or sale of the Building or a bona fide request by Landlord's financial partners or lender, in which case Tenant shall be required to furnish more than one time per calendar year), with financial statements in form and substance reasonably satisfactory to Landlord reflecting Tenant's current financial condition. Tenant represents and warrants that all financial statements, records and information furnished by Tenant to Landlord in connection with this Lease are true, correct and complete in all material respects.

5.11 Entry by Landlord. Landlord, its employees, agents and consultants, shall have the right to enter the Leased Premises at any time, in cases of an emergency, and otherwise at reasonable times after at least twenty-four (24) hours advance written notice to Tenant (which written notice may be via email) to inspect the same, to clean, to perform such work as may be permitted or required under this Lease, to make repairs to or alterations of the Leased Premises or other portions of the Project or other tenant spaces therein, to deal with emergencies, to post such notices as may be permitted or required by law to prevent the perfection of liens against Landlord's interest in the Project or to show the Leased Premises to prospective tenants, purchasers, encumbrancers or others, or for any other purpose as Landlord may deem reasonably necessary or desirable; provided, however that Landlord shall not unreasonably interfere with Tenant's access, use and enjoyment of the Leased Premises or Building Top Roof Deck. Tenant shall not be entitled to any abatement of Rent or damages by reason of the exercise of any such right of entry or performance of any such work by Landlord.

5.12 Nondisturbance and Attornment. This Lease and the rights of Tenant hereunder shall be subject and subordinate to the lien of any deed of trust, mortgage, ground lease or other hypothecation or security instrument (collectively, "**Security Device**") now or hereafter placed upon, affecting or encumbering the Project or any part thereof or interest therein, and to any and all advances made thereunder, interest thereon or costs incurred and any modifications, renewals, supplements, consolidations, replacements and extensions thereof. Without the consent of Tenant, the holder of any such Security Device or the beneficiary thereunder shall have the right to elect to be subject and subordinate to this Lease, such subordination to be effective upon such terms and conditions as such holder or beneficiary may direct which are not inconsistent with the provisions hereof. Tenant agrees to attorn to and recognize as the Landlord under this Lease the holder or beneficiary under a Security Device or any other party that acquires ownership of the Leased Premises by reason of a foreclosure or sale under any Security Device (or deed in lieu thereof). Tenant covenants and agrees to execute (and acknowledge if required by Landlord, any lender or ground lessor) and deliver, within ten (10) days of a written demand or request by Landlord and in the form reasonably requested by Landlord, ground lessor, mortgagee or beneficiary, any additional documents evidencing the priority or subordination of this Lease with respect to any such ground leases or underlying leases or the lien of any such mortgage or deed of trust. Landlord shall use diligent and good faith efforts to obtain a nondisturbance agreement in a commercially reasonable form from the current lender within thirty (30) days after the Rent Commencement Date.

5.13 Estoppel Certificate. Within fifteen (15) days following Landlord's request, Tenant shall execute, acknowledge and deliver written estoppel certificates addressed to (i) any mortgagee or prospective mortgagee of Landlord, or (ii) any purchaser or prospective purchaser of all or any portion of, or interest in, the Project, on a form specified by Landlord, certifying as to such facts (if true) and agreeing to such notice provisions and other matters as such mortgagee(s) or purchaser(s) may reasonably require, including, without limitation, the following: (a) that this Lease is unmodified and in full force and effect (or in full force and effect as modified, and stating the modifications); (b) the amount of, and date to which Rent and other charges have been paid in advance; (c) the amount of the Security Deposit; and (d) acknowledging, to Tenant's knowledge, that Landlord is not in default under this Lease (or, if Landlord is claimed to be in default, stating the nature of the alleged default). Any such estoppel certificate may be relied upon by any such mortgagee or purchaser. Failure by Tenant to execute and deliver any such estoppel certificate within three (3) business days following a second (2nd) written notice from Landlord shall be conclusive upon Tenant that (1) this Lease is in full force and effect and has not been modified except as represented by Landlord; (2) not more than one month's Rent has been paid in advance; and (3) Landlord is not in default under this Lease.

5.14 Security Deposit.

(a) Instead of a cash deposit, Tenant shall deliver the Security Deposit to Landlord in the form of a clean and irrevocable letter of credit (the "**Letter of Credit**") issued by and drawable upon (said issuer being referred to as the "**Issuing Bank**") a financial institution which is reasonably approved by Landlord within five (5) business days after the execution of this Lease. Such Letter of Credit shall (a) name Landlord as beneficiary, (b) be in the amount of the Security Deposit, (c) have a term of not less than one year, (d) permit multiple drawings, (e) be fully transferable by Landlord, and (f) otherwise be in form and content reasonably satisfactory to Landlord. If upon any transfer of the Letter of Credit, any fees or charges shall be so imposed, then such fees or charges shall be payable solely by Tenant and the Letter of Credit shall so specify and if the Issuing Bank will not agree to the transfer (or if it imposes unreasonable requirements for the transfer), Tenant shall promptly replace such Letter of Credit. The Letter of Credit shall provide that it shall be deemed automatically renewed, without amendment, for consecutive periods of one year each thereafter during the Term unless the Issuing Bank sends a notice (the "**Non-Renewal Notice**") to Landlord by certified mail, return receipt requested, not less than forty-five (45) days next preceding the then expiration date of the Letter of Credit stating that the Issuing Bank has elected not to renew the Letter of Credit. Landlord shall have the right, upon receipt of the Non-Renewal Notice, to draw the full amount of the Letter of Credit, by sight draft on the Issuing Bank, and shall thereafter hold or apply the cash proceeds of the Letter of Credit pursuant to the terms of this Section 5.14. The Issuing Bank shall agree with all drawers, endorsers and bona fide holders that drafts drawn under and in compliance with the terms of the Letter of Credit will be duly honored upon presentation to the Issuing Bank at an office location in the San Francisco Bay Area. Notwithstanding the foregoing, Landlord hereby approves Silicon Valley Bank as an Issuing Bank.

(b) If at any time during the Term, Tenant shall be in default in the payment of Rent or in material default for any other reason, Landlord may use or apply all or part of the Security Deposit for payment of any amount due Landlord or to cure such default or to reimburse or compensate Landlord for any liability, loss, cost, expense or damage (including attorneys' fees) which Landlord may suffer or incur by reason of Tenant's default. If Landlord uses or applies all or any part of the Security Deposit, Tenant shall, on demand, restore the Letter of Credit to the full amount required by this Lease. Within thirty (30) days after the expiration of the Term or earlier termination of this Lease and after Tenant has vacated the Leased Premises, Landlord shall or shall cause the Issuing Bank to return the Letter of Credit to Tenant, reduced by such amounts as may be required by Landlord to remedy defaults on the part of Tenant in the payment of Rent, to repair damages to the Leased Premises caused by Tenant and to clean the Leased Premises. The portion of the Letter of Credit not so required shall be returned to Tenant (or, at Landlord's option, to the last assignee of Tenant's interest in this Lease) within thirty (30) days after expiration of the Term or earlier termination hereof. No part of the Security Deposit shall be considered to be held in trust, or to be prepayment of any monies to be paid by Tenant under this Lease. Tenant hereby waives (i) the protections of Section 1950.7 of the California Civil Code, as it may hereafter be amended and any and all other laws, rules and regulations applicable to security deposits in the commercial context ("**Security Deposit Laws**"), and (ii) any and all rights, duties and obligations either party may now or, in the future, will have relating to or arising from the Security Deposit Laws. Notwithstanding anything to the contrary herein, the Security Deposit may be applied by Landlord (a) to offset Rent which is unpaid either before or after termination of this Lease, and (b) against other damages suffered by Landlord before or after termination of this Lease.

(c) Notwithstanding anything in this Section 5.14 to the contrary, provided that there has been no previous material monetary default by Tenant under the Lease, (i) on the last day of the twenty-fourth (24th) full calendar month after the Rent Commencement Date, the amount of the Security Deposit and Letter of Credit shall be reduced to seventy-five percent (75%) of the original Security Deposit amount, (ii) on the last day of the forty-eighth (48th) full calendar month after the Rent Commencement Date, the amount of the Security Deposit and Letter of Credit shall be reduced to fifty percent (50%) of the original Security Deposit amount, and (iii) on the last day of the seventy- second (72nd) full calendar month after the Rent Commencement Date, the amount of the Security Deposit and Letter of Credit shall be reduced to twenty-five percent (25%) of the original Security Deposit. Except as set forth in the following sentence, in no event shall the Security Deposit and Letter of Credit be less than $825,000.00. Provided that there has been no previous material monetary default by Tenant under the Lease, Tenant has a minimum net worth of $1,000,000,000.00 on the last day of the ninety-sixth (96th) full calendar month after the Rent Commencement Date, and Tenant has produced an EBITDA profit for the immediately preceding four (4) consecutive quarters, the amount of the Security Deposit and Letter of Credit shall be reduced to $500,000.00. Subject to the foregoing, Tenant shall have the right to reduce the Letter of Credit amount via the delivery to Landlord of either (i) an amendment to the existing Letter of Credit (in form and content reasonably acceptable to Landlord) reducing the Letter of Credit amount to the amount set forth above, or (ii) an entirely new Letter of Credit (in the form and content required by this Section 5.14) in the Letter of Credit amount then required as set forth above. If applicable, Landlord shall cooperate with Tenant in executing such authorizations as the Issuing Bank may require to accomplish any such reduction.

5.15 Surrender.

(a) Subject to the provisions of Section 5.7 hereof, on the Term Expiration Date (or earlier termination of this Lease), Tenant shall quit and surrender possession of the Leased Premises to Landlord in broom clean condition and as good order and condition as they were in on the Term Commencement Date, reasonable wear and tear, casualty damage, taking by condemnation and damage by casualty not caused by Tenant, its agents, employees, contractors, invitees and licensees excepted. Reasonable wear and tear shall not include any damage or deterioration that would have been prevented by good maintenance practice or by Tenant performing all of its obligations under this Lease. Tenant shall, without cost to Landlord, remove all furniture, equipment, trade fixtures, debris and articles of personal property owned by Tenant in the Leased Premises, and shall repair any damage to the Project resulting from such removal. Any such property not removed by Tenant by the Term Expiration Date (or earlier termination of this Lease) shall be considered abandoned, and Landlord may remove any or all of such items and dispose of same in any lawful manner or store same in a public warehouse or elsewhere for the account and at the expense and risk of Tenant. If Tenant shall fail to pay the cost of storing any such property after storage for thirty (30) days or more, Landlord may sell any or all of such property at public or private sale, in such manner and at such times and places as Landlord may deem proper, without notice to or demand upon Tenant. Landlord shall apply the proceeds of any such sale as follows: first, to the costs of such sale; second, to the costs of storing any such property; third, to the payment of any other sums of money which may then or thereafter be due to Landlord from Tenant under any of the terms of this Lease; and fourth, the balance, if any, to Tenant.

(b) In addition, on the Term Expiration Date (or earlier termination of this Lease), Tenant shall remove, at its sole cost and expense, all of Tenant's telecommunications lines and cabling installed by Tenant or Current Tenant, including, without limitation, any such lines and cabling installed in the plenum or risers of the Building in compliance with the National Electrical Code (collectively, "**Wires**") and repair all damage caused thereby and restore the Leased Premises or the Building, as the case may be, to their condition existing prior to the installation of the Wires ("**Wire Restoration Work**"). Landlord, at its option, may perform such Wire Restoration Work at Tenant's sole cost and expense. In the event that Tenant fails to perform the Wire Restoration Work or refuses to pay all costs of the Wire Restoration Work (if performed by Landlord) within ten (10) days of Tenant's receipt of Landlord's notice requesting Tenant's reimbursement for or payment of such costs or otherwise fails to comply with the provisions of this Section 5.15(b), Landlord may apply all or any portion of the Security Deposit toward the payment of any costs or expenses relative to the Wire Restoration Work or Tenant's obligations under this Section 5.15(b). The retention or application of such Security Deposit (if any) by Landlord pursuant to this Section 5.15(b) does not constitute a limitation on or waiver of Landlord's right to seek further remedy under law or equity. The provisions of this Section 5.15(b) shall survive the expiration or sooner termination of this Lease.

5.16 Tenant's Remedies.

(a) Landlord shall not be deemed in breach of this Lease unless Landlord fails within a reasonable time to perform an obligation required to be performed by Landlord. For purposes of this Section 5.16, a reasonable time shall in no event be less than fifteen (15) days after receipt by Landlord, and by the holders of any ground lease, deed of trust or mortgage covering the Leased Premises whose name and address shall have been furnished Tenant in writing for such purpose, of written notice specifying wherein such obligation of Landlord has not been performed; provided, however, that if the nature of Landlord's obligation is such that more than fifteen (15) days after such notice are reasonably required for its performance, then Landlord shall not be in breach of this Lease if performance is commenced within said fifteen (15)-day period and thereafter diligently pursued to completion. If Landlord fails to cure such default within the time provided for in this Lease, the holder of any such ground lease, deed of trust or mortgage shall have an additional period of time as described in Section 9.26 below. The liability of Landlord to Tenant for any default by Landlord under the terms of this Lease shall be limited to the actual interest of Landlord and its present or future partners or members in the Building, and Tenant agrees to look solely to Landlord's interest in the Building for satisfaction of any liability and shall not look to other assets of Landlord nor seek any recourse against the assets of the individual partners, members, directors, officers, shareholders, agents or employees of Landlord, including without limitation, any property management or asset management company of Landlord (collectively, the "**Landlord Parties**"). It is the parties' intention that Landlord and the Landlord Parties shall not in any event or circumstance be personally liable, in any manner whatsoever, for any judgment or deficiency hereunder or with respect to this Lease. Landlord shall not be liable for any loss, injury or damage arising from any act or omission of any other tenant or occupant of the Building, nor shall Landlord be liable under any circumstances for damage or inconvenience to Tenant's business or for any loss of income or profit therefrom or for other consequential

damages. The liability of Landlord under this Lease is limited to its actual period of ownership of title to the Building. Any lien obtained to enforce any such judgment and any levy of execution thereon shall be subject and subordinate to any lien, deed of trust or mortgage to which Section 5.12 applies or may apply. Tenant's obligation to provide written notice to Landlord of a default by Landlord is limited to those instances where knowledge of Landlord's default is within the actual knowledge of Tenant. Tenant shall not have the right to terminate this Lease or withhold, reduce or offset any amount against any payments of Rent due and payable under this Lease by reason of a breach of this Lease by Landlord (except as otherwise provided in this Lease); provided, however, that nothing herein shall be deemed to preclude Tenant from bringing legal action to terminate this Lease or to seek actual damages from Landlord in the event of a material breach by Landlord of its obligations under this Lease.

(b) In the event (i) Landlord fails to perform any affirmative duty or obligation of Landlord under this Lease and the failure continues beyond the applicable cure period set forth in this Section 5.16, and (ii) Tenant delivers an additional notice to Landlord specifying that Tenant will have the right to perform such duty or obligation on Landlord's behalf and Landlord does not, within five (5) days after receipt of the additional notice notify Tenant that a good faith, bona fide dispute exists as to whether or not Landlord has failed to perform such duty or obligation, then Tenant may (but shall not be obligated to) perform such duty or obligation on Landlord's behalf without waiving any of Tenant's other rights or remedies in connection therewith or releasing Landlord from any of its obligations for such default and Tenant shall be entitled to reimbursement (within thirty (30) days of Landlord's receipt of a written request for payment accompanied by written invoices and other reasonably satisfactory written evidence showing the costs incurred) by Landlord of Tenant's reasonable direct out-of-pocket costs and expenses in performing such duty or obligation on Landlord's behalf, and Landlord shall indemnify, defend and hold Tenant harmless from and against any claims, liability or damage caused by Landlord failure to perform any affirmative duty or obligation of Landlord under this Lease (excluding special, punitive, speculative or consequential damages). In the event Tenant performs such duty or obligation on Landlord's behalf, such work, if applicable, must be performed in a first-class manner and in compliance with all applicable laws; and, if such work will affect the Building's systems and equipment or the structural integrity of the Building, Tenant shall use only those contractors used by Landlord in the Building for work on such systems and equipment (or structural components) (and Landlord shall cause such contractors to charge Tenant competitive rates for such work) unless such contractors are unwilling or unable to perform, or timely perform, such work, in which event Tenant may utilize the services of any other qualified union contractor which normally and regularly performs similar work in Comparable Buildings (as defined in Section 8.1). If Landlord fails to make any required reimbursement within the 30-day period referred to above, Tenant shall have the right to offset the amount set forth in such invoice (other than any portion thereof with respect to which there exists a good faith, bona fide dispute) against the next payment(s) of Rent due under the Lease.

5.17 Rules and Regulations. Tenant shall comply with the rules and regulations for the Project attached as **Exhibit D** and such reasonable amendments thereto as Landlord may adopt from time to time with prior notice to Tenant.

5.18 Water Leak Monitoring Plan. Tenant shall, at Tenant's sole cost and expense, maintain a water leak monitoring plan to detect water leaks occurring in the Leased Premises in order to, among other things, minimize potential damage to the Leased Premises and Tenant's furniture, trade fixtures and equipment.

Article VI

Environmental Matters

6.1 Hazardous Materials Prohibited.

(a) Tenant shall not cause or permit any Hazardous Material (as defined in Section 6.1(c) below) to be brought, kept, used, generated, released or disposed in, on, under or about the Leased Premises or the Project by Tenant, its agents, employees, contractors, licensees or invitees (collectively, "**Tenant's Representatives**"); provided, however, that Tenant may use, store and dispose of, in accordance with applicable Governmental Requirements (as defined in Section 6.1(b), limited quantities of standard office and janitorial supplies, but only to the extent reasonably necessary for Tenant's operations in the Leased Premises, and Hazardous Materials which may be used in a Laboratory (as defined in California Building Code Section 201) or Business Group B occupancies (as defined in California Building Code Section 304), but only to the extent reasonably necessary for Tenant's operations in the Leased Premises. Within fifteen (15) days following Landlord's request, Tenant shall provide Landlord with copies of or access to Tenant's reports provided to governmental authorities with respect to Hazardous Materials, including, without limitation, reports in the California Environmental Reporting System. In addition, with at least fifteen (15) days prior written notice (however, no more than once per year), Tenant shall allow Landlord's environmental consultant, at Landlord's sole cost, to perform an environmental audit of Tenant's use, handling and disposal of Hazardous Materials. Tenant hereby indemnifies Landlord from and against (i) any breach by Tenant of the obligations stated in the preceding sentence, (ii) any breach of the obligations stated in Section 6.1(b) below, or (iii) any claims or liability resulting from Tenant's use of Hazardous Materials. Tenant hereby agrees to defend and hold Landlord harmless from and against any and all claims, liability, losses, damages, actual costs and/or expenses which arise during or after the Term as a direct result of any breach of the obligations stated in Sections 6.1(a) or 6.1(b) or otherwise resulting from Tenant's use of Hazardous Materials. This indemnification of Landlord by Tenant includes, without limitation, death of or injury to person, damage to any property or the environment and costs incurred in connection with any investigation of site conditions or any cleanup, remedial, removal, or restoration work required by any federal, state or local governmental agency or political subdivision because of any Hazardous Material present in, on, under or about the Leased Premises or the Project (including soil and ground water contamination) which results from such a breach. Without limiting the foregoing, if the presence of any Hazardous Material in, on, under or about the Leased Premises or the Project caused or permitted by Tenant results in any contamination of the Leased Premises or the Project, Tenant shall promptly take all actions, at Tenant's sole expense, to remediate such contamination as required by applicable law or by the applicable governmental agencies; provided that Landlord's approval of such actions, and the contractors to be used by Tenant in connection therewith, shall first be obtained. This indemnification of Landlord by Tenant shall survive the expiration or sooner termination of this Lease. Within fifteen (15) days following Landlord's request (the frequency of such requests by Landlord shall be reasonable), Tenant shall complete, execute, and deliver to Landlord a Hazardous Materials Questionnaire substantially in the form attached to this Lease as **Exhibit F**.

(b) Tenant covenants and agrees that Tenant shall at all times be responsible and liable for, and be in material compliance with, all federal, state, local and regional laws, ordinances, rules, codes and regulations, as amended from time to time ("**Governmental Requirements**"), relating to health and safety and environmental matters, arising, directly, out of the use of Hazardous Materials (as defined in Section 6.1(c) below) in the Project, including the specific laws, ordinances and regulations referred to in Section 6.1(c) below. Health and safety and environmental matters for which Tenant is responsible under this paragraph include, without limitation (i) notification and reporting to governmental agencies, (ii) the provision of warnings of potential exposure to Hazardous Materials to Landlord and Tenant's agents, employees, licensees, contractors and others, (iii) the payment of taxes and fees, (iv) the proper off-site transportation and disposal of Hazardous Materials, and (v) all requirements, including training, relating to the use of equipment. Immediately upon discovery of a release of Hazardous Materials, Tenant shall give written notice to Landlord, whether or not such release is subject to reporting under Governmental Requirements. The notice shall include information on the nature and conditions of the release and Tenant's planned response. Tenant shall be liable for the cost of any clean-up of the release of any Hazardous Materials by Tenant or Tenant's Representatives on the Project.

(c) As used in this Lease, the term "**Hazardous Material**" means any hazardous or toxic substance, material or waste which is or becomes regulated by any local governmental authority, the State of California or the United States Government. The term "Hazardous Material" includes, without limitation, any substance, material or waste which is (i) defined as a "hazardous waste" or similar term under the laws of the jurisdiction where the Project is located; (ii) designated as a "hazardous substance" pursuant to Section 311 of the Federal Water Pollution Control Act (33 U.S.C. § 1317); (iii) defined as a "hazardous waste" pursuant to Section 1004 of the Federal Resource, Conservation and Recovery Act, 42 U.S.C. § 6901 et seq. (42 U.S.C. § 6903); (iv) defined as a "hazardous substance" pursuant to Section 101 of the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601 et seq. (42 U.S.C. § 9601); (v) hydrocarbons, petroleum, gasoline, crude oil or any products, by-products or fractions thereof; or (vi) asbestos in any form or condition.

(d) In connection with Landlord's recent acquisition of the Project, Landlord commissioned an environmental site assessment for the Project and the findings are set forth in an environmental report ("**Environmental Report**"). In addition, a summary with respect to the activities associated with the investigation and content removal of an Underground Storage Tank was prepared by Roux Associates, Inc. on August 5, 2020 (the "**Tank Report**"). A true and correct copy of the Environmental Report and the Tank Report was delivered to Tenant on January 13, 2021. Notwithstanding anything to the contrary herein, to the best of Landlord's actual knowledge, except for suspected asbestos material and lead paint in the Building and any materials that may be set forth in the Environmental Report and the Tank Report, there are no Hazardous Materials in the Building or on or under the Project.

6.2 Limitations on Assignment and Subletting. In addition to the provisions of Section 5.6 above, it shall not be unreasonable for Landlord to withhold its consent to any proposed assignment or subletting of the Leased Premises if (i) the proposed transferee's anticipated use of the Leased Premises involves the generation, storage, use, treatment, or disposal of Hazardous Material (excluding standard office and janitorial supplies; in limited quantities as hereinabove provided) in violation of Governmental Requirements; (ii) the proposed transferee has been

required by any prior landlord, lender or governmental authority to take remedial action in connection with Hazardous Material contaminating a real property if the contamination resulted from such transferee's actions or use of the property in question; or (iii) the proposed transferee is subject to an enforcement order issued by any governmental authority in connection with the generation, storage, use, treatment or disposal of a Hazardous Material.

6.3 Right of Entry. In addition to the provisions of Section 5.11 above, Landlord, its employees, agents and consultants, shall have the right to enter the Leased Premises at any time, in case of an emergency, and otherwise during reasonable hours and upon reasonable prior written notice to Tenant, in order to conduct periodic environmental inspections and tests to determine whether any Hazardous Materials are present. The costs and expenses of such inspections shall be paid by Landlord unless a default or breach of this Lease, violation of Governmental Requirements or contamination caused or permitted by Tenant is found to exist. In such event, Tenant shall reimburse Landlord upon demand, as Additional Rent, for the costs and expenses of such inspections.

6.4 Notice to Landlord. Tenant shall promptly notify Landlord in writing of: (i) any enforcement, clean-up, removal or other governmental or regulatory action instituted or threatened regarding the Leased Premises or the Project pursuant to any Governmental Requirements; (ii) any claim made or in writing threatened by any person against Tenant or the Leased Premises relating to damage, contribution, cost recovery, compensation, loss or injury resulting from or claimed to result from any Hazardous Material; and (iii) any reports made to or received from any governmental agency arising out of or in connection with any Hazardous Material in or removed from the Leased Premises or the Project, including any complaints, notices, warnings or asserted violations in connection therewith. Tenant shall also supply to Landlord as promptly as possible, and in any event within three (3) business days after Tenant first receives or sends the same, copies of all claims, reports, complaints, notices, warnings, asserted violations or other communications relating in any way to the Leased Premises or Tenant's use thereof.

6.5 Disclosure as to Hazardous Materials. Landlord hereby discloses to Tenant that previous occupants or others possessed and used or may have possessed and used office supplies, cleaning products, construction and decorating materials and other substances in or about the Leased Premises or portions thereof and which may contain or may have contained Hazardous Materials for which Tenant shall have no liability. In addition: (i) portions of the Project (including, without limitation, the equipment rooms) contain Hazardous Materials of the kind ordinarily employed in such areas; and (ii) automobiles and other vehicles operated or parked in the parking and loading areas emit substances which may contain Hazardous Materials.

6.6 Asbestos Notice. Tenant acknowledges that Tenant has received the asbestos notification letter attached hereto as **Exhibit E** pursuant to California Health and Safety Code Sections 25915 et seq. (as amended from time to time, the "**Connelly Act**"), disclosing the existence of asbestos in the Building. Tenant hereby agrees to comply with the Connelly Act, including providing copies of Landlord's asbestos notification letter to all of Tenant's "employees" and "owners," as those terms are defined in the Connelly Act.

Article VII

Insurance, Indemnity, Condemnation, Damage and Default

7.1 Landlord's Insurance. Landlord shall secure and maintain policies of insurance for the estimated full replacement cost of the Project covering loss of or damage to the Project, including the Base Building Upgrades and the PD Tenant Improvements, but excluding all subsequent alterations, additions and improvements to the Leased Premises, with loss payable to Landlord and to the holders of any deeds of trust, mortgages or ground leases on the Project. Landlord shall not be obligated to obtain insurance for Tenant's trade fixtures, equipment, furnishings, machinery or other property (regardless of whether such items may be a component of the PD Tenant Improvements). Such policies shall provide protection against fire and extended coverage perils and such additional perils as Landlord deems suitable, and with such deductible(s) as Landlord shall deem reasonably appropriate. Landlord shall further secure and maintain commercial general liability insurance with respect to the Project in such amount as Landlord shall determine, such insurance to be in addition to, and not in lieu of, the liability insurance required to be maintained by Tenant. Landlord may also secure and maintain earthquake insurance with respect to the Project subject to the terms and provisions set forth in Section 3.5(a)(8). Landlord may elect to self-insure for the coverages required under this Section 7.1. Tenant shall not be named as an additional insured on any policy of insurance maintained by Landlord.

7.2 Tenant's Liability Insurance. Tenant (with respect to both the Leased Premises and the Project) shall secure and maintain, at its own expense, at all times during the Term (including any early access period), a policy or policies of commercial general liability insurance with the premiums thereon fully paid in advance, protecting Tenant and naming Landlord, the holders of any deeds of trust, mortgages or ground leases on the Project, and Landlord's representatives (which term, whenever used in this Article 7, shall be deemed to include Landlord's partners, trustees, ancillary trustees, officers, directors, shareholders, beneficiaries, agents, employees and independent contractors) as additional insureds against claims for bodily injury, personal injury, advertising injury and property damage (including attorneys' fees) based upon, involving or arising out of Tenant's operations, assumed liabilities or Tenant's use, occupancy or maintenance of the Leased Premises and the Project. Such insurance shall provide for a minimum amount of Two Million Dollars ($2,000,000.00) for property damage or injury, bodily injury, or death of one or more than one person in any one accident or occurrence, with an annual aggregate limit of at least Five Million Dollars ($5,000,000.00). The coverage required to be carried shall include fire legal liability, blanket contractual liability, personal injury liability (libel, slander, false arrest and wrongful eviction), property damage, medical payments, products liability and completed operations coverage (as well as owned, non-owned and hired automobile liability if an exposure exists) and the policy shall contain an exception to any pollution exclusion which insures damage or injury arising out of heat, smoke or fumes from a hostile fire; notwithstanding the foregoing, completed operations coverage shall not be required provided Tenant is engaged only in research and development activities and does not have any sponsored human clinical trials and is not engaged in the production, manufacturing, marketing and/or sale of any products for human trials or use (collectively, "Production Activities"), however, prior to commencing any Production Activities, Tenant shall notify Landlord in writing and shall add completed operations liability insurance to its coverages. Such insurance shall be written on an occurrence basis and contain a separation of insureds provision or cross-liability endorsement

acceptable to Landlord. Tenant shall provide Landlord with a certificate evidencing such insurance coverage. The certificate shall indicate that the insurance provided specifically recognizes the liability assumed by Tenant under this Lease and that Tenant's insurance is primary to and not contributory (and Tenant shall provide Landlord with evidence of a primary and non-contributory endorsement) with any other insurance maintained by Landlord, whose insurance shall be considered excess insurance only. Not more frequently than every two (2) years, if, in the opinion of any mortgagee of Landlord or of the insurance broker retained by Landlord, the amount of liability insurance coverage at that time is not adequate, then Tenant shall increase its liability insurance coverage as required by either any mortgagee of Landlord or Landlord's insurance broker. Whenever, in Landlord's reasonable judgment, good business practice or change in conditions indicate a need for additional or different types of insurance, Tenant shall, within fifteen (15) days of receipt of Landlord's request therefor, obtain the insurance at its own expense.

7.3 Tenant's Additional Insurance Requirements.

(a) Tenant shall secure and maintain, at Tenant's expense, at all times during the Term (including any early access period), a commercial property policy, covering risks of direct physical loss (known as Special Form coverage) including a replacement cost provision, on all of Tenant's fixtures, furnishings, equipment, machinery, merchandise and personal property in the Leased Premises and on any alterations, additions or improvements made by or for Tenant upon the Leased Premises, all for the full replacement cost thereof without deduction for depreciation of the covered items and in amounts that meet any co-insurance clauses of the policies of insurance. Such insurance shall insure against those risks customarily covered in an "all risk" policy of insurance covering physical loss or damage. Tenant shall use the proceeds from such insurance for the replacement of fixtures, furnishings, equipment and personal property and for the restoration of any alterations, additions or improvements to the Leased Premises. In addition, Tenant shall secure and maintain, at all times during the Term, loss of income, business interruption and extra expense insurance in such amounts as will reimburse Tenant for direct or indirect loss of earnings and incurred costs for a minimum period of twelve (12) months attributable to all perils commonly insured against by prudent tenants or attributable to prevention of access to the Leased Premises or to the Building as a result of such perils; such insurance shall be maintained with Tenant's property insurance carrier. Further, Tenant shall secure and maintain at all times during the Term workers' compensation insurance in such amounts as are required by law, employer's liability insurance in the amount of One Million Dollars ($1,000,000.00) per occurrence, and all such other insurance as may be required by applicable law or as may be reasonably required by Landlord. In addition, Tenant shall maintain environmental or pollution legal liability insurance applicable to bodily injury, property damage including loss of use of damaged property or of property that has not been physically injured or destroyed, cleanup costs and defense, including costs incurred in the investigation, defense or settlement of claims; all in connection with any loss arising from the Leased Premises in an amount not less than Five Million Dollars ($5,000,000.00) each incident and in the annual aggregate; if such insurance coverage is written on a claims-made basis, Tenant warrants that continuous coverage will be maintained or an extended discovery period will be exercised for a period of five (5) years after the expiration of the Term of this Lease with such cost incurred by Tenant (the parties agree that the foregoing environmental or pollution legal liability insurance shall only cover claims, costs or losses caused by Tenant's Representatives and shall not cover, among other things, pre-existing conditions, claims caused by future tenants that occupy the Project after the expiration of the Term of this

Lease, or claims caused by Landlord's Representatives). In the event Tenant makes any alterations, additions or improvements to the Leased Premises, prior to commencing any work in the Leased Premises, Tenant shall secure "builder's all risk" insurance which shall be maintained throughout the course of construction, such policy being an all risk builder's risk completed value form, in an amount approved by Landlord, but not less than the total contract price for the construction of such alterations, additions or improvements and covering the construction of such alterations, additions or improvements, and such other insurance as Landlord may reasonably require, it being understood and agreed that all of such alterations, additions or improvements shall be insured by Tenant pursuant to this Section 7.3 immediately upon completion thereof. Tenant shall provide Landlord with certificates of all such insurance. The property insurance certificate shall confirm that the waiver of subrogation required to be obtained pursuant to Section 7.5 is permitted by the insurer. Tenant shall, at least thirty (30) days prior to the expiration of any policy of insurance required to be maintained by Tenant under this Lease, furnish Landlord with an "insurance binder" or other satisfactory evidence of renewal thereof.

(b) All policies required to be carried by Tenant under this Lease shall be issued by and binding upon a reputable insurance company of good financial standing licensed to do business in the State of California with a rating of at least A-IX or such other rating as may be required by a lender having a lien on the Project, as set forth in the most current issue of "Best's Insurance Reports." Tenant shall not do or permit anything to be done that would invalidate the insurance policies referred to in this Article 7. All policies required to be carried by Tenant under this Article 7 shall contain a waiver of subrogation endorsement and shall contain an endorsement or endorsements providing that (i) Landlord and its affiliated entities, the property manager for the Building, the asset manager for the Building, and any lender with a deed of trust encumbering the Project or any part thereof, of whom Landlord has notified Tenant, are included as additional insureds, (ii) the insurer agrees not to cancel or alter the policy without at least thirty (30) days' prior written notice to Landlord and all named and additional insureds, and (iii) all such insurance maintained by Tenant is primary, with any other insurance available to Landlord or any other named or additional insured being excess and noncontributing.

(c) Tenant shall provide evidence of each of the policies of insurance which Tenant is required to obtain and maintain pursuant to this Lease on or before the Term Commencement Date (or any early access period, if applicable) and at least thirty (30) days prior to the expiration of any policy, which evidence shall be binding upon the insurance carrier, shall be accompanied by a copy of the ISO Additional Insured Endorsement CG 2037 or CG 2026 (or their equivalent), as applicable, and, as to property insurance, shall be in the form of an "ACORD 28 (10/2003)" evidence of insurance or other form reasonably acceptable to Landlord. In the event that Tenant fails to provide evidence of insurance required to be provided by Tenant under this Lease, prior to commencement of the Term, and thereafter during the Term, within ten (10) days following Landlord's written request therefor, and thirty (30) days prior to the expiration date of any such coverage, Landlord shall be authorized (but not required) to procure such coverage in the amounts stated with all costs thereof (plus a fifteen percent (15%) administrative fee) to be chargeable to Tenant and payable upon written invoice therefor, which amounts shall be deemed Additional Rent hereunder.

(d) The minimum limits of insurance required by this Lease, or as carried by Tenant, shall not limit the liability of Tenant nor relieve Tenant of any obligation hereunder.

7.4 Indemnity and Exoneration.

(a) To the extent not prohibited by law, Landlord and Landlord's representatives, partners, members, agents, employees, directors, officers, successors and assigns ("**Landlord's Representatives**") shall not be liable for any loss, injury or damage to person or property of Tenant, Tenant's agents, employees, contractors, invitees or any other person, whether caused by theft, fire, act of God, acts of the public enemy, riot, strike, insurrection, war, court order, requisition or order of governmental body or authority or which may arise through repair, alteration or maintenance of any part of the Project or failure to make any such repair or from any other cause whatsoever, except as expressly otherwise provided in Sections 7.6 and 7.7. Landlord shall not be liable for any loss, injury or damage arising from any act or omission of any other tenant or occupant of the Project, nor shall Landlord be liable under any circumstances for damage or inconvenience to Tenant's business or for any loss of income or profit therefrom.

(b) Except to the extent such damage is caused by any negligence, willful misconduct or breach of this Lease of or by any Landlord's Representatives, Tenant shall indemnify, protect, defend and hold the Project, Landlord and Landlord's Representatives, harmless of and from any and all claims, liability, costs, penalties, fines, damages, injury, judgments, forfeiture, actual losses or expenses (including without limitation attorneys' fees, consultant fees, testing and investigation fees, expert fees and court costs) arising out of or in any way related to or resulting directly from (i) the use or occupancy of the Leased Premises, (ii) the activities of Tenant or Tenant's Representatives in or about the Leased Premises or the Project, (iii) any failure to comply with any applicable law, and (iv) any default or breach by Tenant in the performance of any obligation of Tenant under this Lease; provided, however, that the foregoing indemnity shall not be applicable to claims arising by reason of the active gross negligence or willful misconduct of Landlord.

(c) Except to the extent such damage is caused by any negligence, willful misconduct or breach of this Lease of or by any Landlord's Representatives, Tenant shall indemnify, protect, defend and hold the Project, Landlord and its representatives, harmless of and from any and all claims, liability, costs, penalties, fines, damages, injury, judgments, forfeiture, actual losses or expenses (including without limitation attorneys' fees, consultant fees, testing and investigation fees, expert fees and court costs) arising out of or in any way related to or resulting directly or indirectly from work or labor performed, materials or supplies furnished to or at the request of Tenant or in connection with obligations incurred by or performance of any work done for the account of Tenant in the Leased Premises or the Project.

(d) Notwithstanding anything to the contrary herein, except with respect to a Tenant hold over as set forth in Section 9.5 below, Landlord and Tenant hereby acknowledge and agree that each party hereunder waives any right to special, punitive, speculative or consequential damages as a result of the default of the other party hereunder.

(e) The provisions of this Section 7.4 shall survive the expiration or sooner termination of this Lease. TENANT AND LANDLORD ACKNOWLEDGE THAT THE PARTIES HAVE READ AND UNDERSTAND THE MEANING AND RAMIFICATIONS OF THE PROVISIONS SET FORTH IN THIS SECTION 7.4 AND FURTHER ACKNOWLEDGES THAT SUCH PROVISIONS WERE SPECIFICALLY NEGOTIATED.

7.5 Waiver of Subrogation. Anything in this Lease to the contrary notwithstanding, Landlord and Tenant each waives all rights of recovery, claim, action or cause of action against the other, its agents (including partners, both general and limited), trustees, officers, directors, and employees, for any loss or damage that may occur to the Leased Premises, or any improvements thereto, or the Project or any personal property of such party therein, by reason of any cause required to be insured against under this Lease to the extent of the coverage required, regardless of cause or origin, including negligence of the other party hereto, provided that such party's insurance is not invalidated thereby; and each party covenants that, to the fullest extent permitted by law, no insurer shall hold any right of subrogation against such other party. Tenant shall advise its insurers of the foregoing and such waiver shall be a part of each policy maintained by Tenant which applies to the Leased Premises, any part of the Project or Tenant's use and occupancy of any part thereof.

7.6 Condemnation.

(a) If the Leased Premises are taken under the power of eminent domain or sold under the threat of the exercise of such power (all of which are referred to herein as "**Condemnation**"), this Lease shall terminate as to the part so taken as of the date the condemning authority takes title or possession, whichever first occurs (the "**Date of Taking**"). If the Leased Premises or any portion of the Project is taken by Condemnation to such an extent as to render the Leased Premises untenantable as reasonably determined by Landlord, this Lease shall, at the option of either party to be exercised in writing within thirty (30) days after receipt of written notice of such taking, forthwith cease and terminate as of the Date of Taking. All proceeds from any Condemnation of the Leased Premises shall belong and be paid to Landlord, subject to the rights of any mortgagee of Landlord's interest in the Project or the beneficiary of any deed of trust which constitutes an encumbrance thereon; provided that Tenant shall be entitled to any compensation separately awarded to Tenant for Tenant's relocation expenses, loss of Tenant's trade fixtures, or Tenant's use of the Leased Premises. If this Lease continues in effect after the Date of Taking pursuant to the provisions of this Section 7.6(a), Landlord shall proceed with reasonable diligence to repair, at its expense, the remaining parts of the Project and the Leased Premises to substantially their former condition to the extent that the same is feasible (subject to reasonable changes which Landlord shall deem desirable) and so as to constitute a complete and tenantable Project and Leased Premises and Rent shall be abated for the period of such Taking. Following a Condemnation, Net Rent shall thereafter be equitably adjusted according to the remaining Rentable Area of the Leased Premises and the Building. Except as hereinafter provided, in the event of any Condemnation, Landlord shall have the right to all compensation, damages, income, rent or awards made with respect thereto (collectively an "**Award**"), including any award for the value of the leasehold estate created by this Lease. No award to Landlord shall be apportioned and, subject to Tenant's rights hereinafter specified, Tenant hereby assigns to Landlord any right of Tenant in any award made for any Condemnation. So long as such claim will not reduce any award otherwise payable to Landlord under this Section 7.6, Tenant may seek to recover, at its cost and expense, as a separate claim, any damages or awards payable on a taking of the Leased Premises to compensate for the unamortized cost paid by Tenant for the alterations, additions or improvements, if any, made by Tenant during the initial improvement of the Leased Premises and for any alterations, or for Tenant's personal property taken, or for interference with or interruption of Tenant's business (including goodwill), or for Tenant's removal and relocation expenses.

(b) In the event of a temporary Condemnation of all or a portion of the Leased Premises, Rent shall be abated for the period of such temporary Condemnation and in proportion to the percentage of the rentable square footage of the Leased Premises, if any, that is subject to, or rendered inaccessible or untenantable by, such Condemnation and not occupied by Tenant. In the event of the a temporary Condemnation, Tenant shall remain fully obligated for performance of all of the covenants and obligations on its part to be performed pursuant to the terms of this Lease.

7.7 Damage or Destruction. In the event of a fire or other casualty in the Leased Premises, Tenant shall immediately give notice thereof to Landlord. The following provisions shall then apply:

(a) If the damage is limited solely to the Leased Premises and the Leased Premises can, in Landlord's reasonable opinion, be made tenantable with all damage repaired (excluding Tenant's personal property, trade fixtures, equipment and any improvements or alterations installed by or on behalf of Tenant) within six (6) months from the date of damage, then Landlord shall be obligated to rebuild the same to substantially their former condition to the extent that the same is feasible (subject to reasonable changes which Landlord shall deem desirable and such changes as may be required by applicable law) and shall proceed with reasonable diligence to do so and this Lease shall remain in full force and effect.

(b) If portions of the Project outside the boundaries of the Leased Premises are damaged or destroyed (whether or not the Leased Premises are also damaged or destroyed) and the Leased Premises and the Project can, in Landlord's opinion, both be made tenantable with all damage repaired (excluding Tenant's personal property, trade fixtures, equipment and any improvements or alterations installed by or on behalf of Tenant, except for the PD Tenant Improvements and Base Building Upgrades set forth in **Exhibits B** and **B-1**) within six (6) months from the date of damage or destruction, then Landlord shall be obligated to rebuild the same to substantially their former condition to the extent that the same is feasible (subject to reasonable changes which Landlord shall deem desirable and such changes as may be required by applicable law) and shall proceed with reasonable diligence to do so and this Lease shall remain in full force and effect.

(c) Notwithstanding anything to the contrary contained in Sections 7.7(a) or 7.7(b) above, Landlord shall not have any obligation whatsoever to repair, reconstruct or restore the Leased Premises if (i) the cost to repair and restore the Building is fifty percent (50%) or more of the replacement cost of the entire Building prior to such damage or destruction, (ii) the holder of any mortgage or beneficiary of any deed of trust requires that Landlord's insurance proceeds be paid to it, or (iii) when any damage thereto or to the Building occurs during the last eighteen (18) months of the Term. Under such circumstances, Landlord shall notify Tenant of its decision not to rebuild within thirty (30) days of such damage, whereupon the Lease shall terminate as of the date of such notice.

(d) If neither Section 7.7(a) nor 7.7(b) above applies, Landlord shall so notify Tenant within thirty (30) days after the date of the damage or destruction and Landlord may terminate this Lease within thirty (30) days after the date of such notice, such termination notice to be immediately effective; provided, however, that if Landlord elects to reconstruct the Project

and the Leased Premises, such election to be made at Landlord's sole option, in which event (i) Landlord shall notify Tenant of such election within said thirty (30) day period, and (ii) Landlord shall proceed with reasonable diligence to rebuild the Project and the Leased Premises to substantially their former condition to the extent that the same is feasible (subject to reasonable changes which Landlord shall deem desirable and such changes as may be required by applicable law) but excluding Tenant's personal property, trade fixtures, equipment and any improvements or alterations installed by or on behalf of Tenant, except for the PD Tenant Improvements and Base Building Upgrades set forth in **Exhibit B-1**.

(e) During any period when Tenant's use of the Leased Premises is significantly impaired by damage or destruction, Base Rent shall abate in proportion to the degree to which Tenant's use of the Leased Premises is impaired and Tenant does not actually use the Leased Premises until such time as the Leased Premises are made tenantable as reasonably determined by Landlord and Tenant; provided that no such rental abatement shall be permitted if the casualty is the result of the negligence or willful misconduct of Tenant or Tenant's Representatives.

(f) The proceeds from any insurance paid by reason of damage to or destruction of the Project or any part thereof insured by Landlord shall belong to and be paid to Landlord, subject to the rights of any mortgagee of Landlord's interest in the Project or the beneficiary of any deed of trust which constitutes an encumbrance thereon. Tenant shall be responsible at its sole cost and expense for the repair, restoration and replacement of (i) its fixtures, furnishings, equipment, machinery, merchandise and personal property in the Leased Premises, and (ii) its alteration, additions and improvements.

(g) Landlord's repair and restoration obligations under this Section 7.7 shall not impair or otherwise affect the rights and obligations of the parties set forth elsewhere in this Lease. Subject to Section 7.7(e), Landlord shall not be liable for any inconvenience or annoyance to Tenant, its employees, agents, contractors or invitees, or injury to Tenant's business resulting in any way from such damage or the repair thereof. Landlord and Tenant agree that the terms of this Lease shall govern the effect of any damage to or destruction of the Leased Premises or the Project with respect to the termination of this Lease and hereby waive the provisions of any present or future statute or law to the extent inconsistent therewith.

(h) Tenant shall promptly replace or repair, at Tenant's cost and expense, Tenant's movable furniture, equipment, trade fixtures and other personal property in the Leased Premises which Tenant shall be responsible for insuring during the Term of this Lease.

(i) The respective rights and obligations of Landlord and Tenant in the event of any damage to or destruction of the Leased Premises, or any other portion of the Building or the Project, are governed exclusively by this Lease. Accordingly, Tenant hereby waives the provisions of any law to the contrary, including California Civil Code Sections 1932(2), 1933(4), 1941 and 1942 and any similar or successor laws and any other laws providing for the termination of a lease upon destruction of the leased property.

7.8 Default by Tenant.

(a) **Events of Default**. The occurrence of any of the following shall constitute an event of default on the part of Tenant:

(1) Intentionally Omitted.

(2) **Nonpayment of Rent**. Failure to pay any installment of Rent due and payable hereunder on the date when payment is due, which failure is not cured within three (3) business days following receipt of written notice from Landlord that such payment is past due; furthermore, if Tenant shall be served with a demand for the payment of past due Rent, any payment(s) tendered thereafter to cure any default by Tenant shall be made only by cashier's check, wire-transfer or direct deposit of immediately available funds;

(3) **Other Obligations**. Failure to perform any obligation, agreement or covenant under this Lease other than those matters specified in subsections 7.8(a)(1), 7.8(a)(2) or 7.8(a)(12), such failure continuing for a period of fifteen (15) days after written notice of such failure (or such longer period as is reasonably necessary to remedy such default (not to exceed sixty (60) days), provided that Tenant commences the remedy within such fifteen (15)-day period and continuously and diligently pursues such remedy at all times until such default is cured);

(4) **General Assignment**. Any general arrangement or assignment by Tenant for the benefit of creditors;

(5) **Bankruptcy**. The filing of any voluntary petition in bankruptcy by Tenant, or the filing of an involuntary petition against Tenant, which involuntary petition remains undischarged for a period of sixty (60) days. In the event that under applicable law the trustee in bankruptcy or Tenant has the right to affirm this Lease and continue to perform the obligations of Tenant hereunder, such trustee or Tenant shall, within such time period as may be permitted by the bankruptcy court having jurisdiction, cure all defaults of Tenant hereunder outstanding as of the date of the affirmance of this Lease and provide to Landlord such adequate assurances as may be necessary to ensure Landlord of the continued performance of Tenant's obligations under this Lease;

(6) **Receivership**. The appointment of a trustee or receiver to take possession of all or substantially all of Tenant's assets or the Leased Premises, where possession is not restored to Tenant within ten (10) business days;

(7) **Attachment**. The attachment, execution or other judicial seizure of all or substantially all of Tenant's assets or the Leased Premises, if such attachment or other seizure remains undismissed or undischarged for a period of thirty (30) business days after the levy thereof;

(8) **Insolvency**. The admission by Tenant in writing of its inability to pay its debts as they become due; the filing by Tenant of a petition seeking any reorganization, arrangement, composition, readjustment, liquidation, dissolution or similar relief under any present or future statute, law or regulation; the filing by Tenant of an answer admitting or failing timely to contest a material allegation of a petition filed against Tenant in any such proceeding; or, if within sixty (60) days after the commencement of any proceeding against Tenant seeking any reorganization, arrangement, composition, readjustment, liquidation, dissolution or similar relief under any present or future statute, law or regulation, such proceeding shall not have been dismissed;

(9) Intentionally Omitted;

(10) **Partner**. If Tenant is a partnership or consists of more than one (1) person or entity, if any general partner or managing member of Tenant is involved in any of the events or acts described in subsections 7.8(a)(4) through (8);

(11) **Misrepresentation**. The discovery by Landlord that any representation, warranty or financial statement given to Landlord by Tenant under this Lease was materially false or misleading; or

(12) **Estoppel/SNDA**. Failure to deliver the documents required to be delivered by Tenant under Sections 5.12 and/or 5.13 within the applicable time period set forth in such sections.

(b) **Remedies Upon Default**:

(1) **Termination**. If an event of default occurs, Landlord shall have the right, with or without notice or demand, immediately (after expiration of any applicable grace period specified herein) to terminate this Lease, and at any time thereafter recover possession of the Leased Premises or any part thereof and expel and remove therefrom Tenant and any other person occupying the same, by any lawful means, and again repossess and enjoy the Leased Premises without prejudice to any of the remedies that Landlord may have under this Lease, or at law or in equity by reason of Tenant's default or of such termination. In addition to the foregoing, if at any time, Tenant is in default of any term, condition or provision of this Lease, to the fullest extent permitted by law, any express or implicit waiver by Landlord of Tenant's requirement to pay Base Rent shall be null and void and Tenant shall immediately pay to Landlord all Base Rent so expressly or implicitly waived by Landlord.

(2) **Continuation After Default**. Even though Tenant has breached this Lease and/or abandoned the Leased Premises, this Lease shall continue in effect for so long as Landlord does not terminate Tenant's right to possession under subsection 7.8(b)(1) hereof in writing, and Landlord may enforce all of its rights and remedies under this Lease, including (but without limitation) the right to recover Rent as it becomes due, and Landlord, without terminating this Lease, may exercise all of the rights and remedies of a landlord under Section 1951.4 of the Civil Code of the State of California or any amended or successor code section. Acts of maintenance or preservation, efforts to relet the Leased Premises or the appointment of a receiver upon application of Landlord to protect Landlord's interest under this Lease shall not constitute an election to terminate Tenant's right to possession. If Landlord elects to relet the Leased Premises for the account of Tenant, the rent received by Landlord from such reletting shall be applied as follows: first, to the payment of any indebtedness other than Rent due hereunder from Tenant to Landlord; second, to the payment of any costs of such reletting; third, to the payment of the cost of any alterations or repairs to the Leased Premises; fourth, to the payment of Rent due and unpaid

hereunder; and the balance, if any, shall be held by Landlord and applied in payment of future Rent as it becomes due. If that portion of rent received from the reletting which is applied against the Rent due hereunder is less than the amount of the Rent due, Tenant shall pay the deficiency to Landlord promptly upon demand by Landlord. Such deficiency shall be calculated and paid monthly. Tenant shall also pay to Landlord, as soon as determined, any costs and expenses incurred by Landlord in connection with such reletting or in making alterations and repairs to the Leased Premises, which are not covered by the rent received from the reletting.

(c) **Damages Upon Termination**. Should Landlord terminate this Lease pursuant to the provisions of subsection 7.8(b)(1) hereof, Landlord shall have all the rights and remedies of a landlord provided by Section 1951.2 of the Civil Code of the State of California. Upon such termination, in addition to any other rights and remedies to which Landlord may be entitled under applicable law, Landlord shall be entitled to recover from Tenant: (i) the worth at the time of award of the unpaid Rent and other amounts which had been earned at the time of termination; (ii) the worth at the time of award of the amount by which the unpaid Rent which would have been earned after termination until the time of award exceeds the amount of such Rent loss that Tenant proves could have been reasonably avoided; (iii) the worth at the time of award of the amount by which the unpaid Rent for the balance of the Term after the time of award exceeds the amount of such Rent loss that Tenant proves could be reasonably avoided; and (iv) any other amount necessary to compensate Landlord for all the detriment proximately caused by Tenant's failure to perform its obligations under this Lease or which, in the ordinary course of things, would be likely to result therefrom. The "worth at the time of award" of the amounts referred to in clauses (i) and (ii) shall be computed with interest at the lesser of ten percent (10%) per annum or the maximum rate then allowed by law. The "worth at the time of award" of the amount referred to in clause (iii) shall be computed by discounting such amount at the discount rate of the Federal Reserve Bank of San Francisco at the time of the award plus one percent (1%).

(d) **Computation of Rent for Purposes of Default**. For purposes of computing unpaid Rent which would have accrued and become payable under this Lease pursuant to the provisions of Section 7.8(c), unpaid Rent shall consist of the sum of:

(1) the total Base Rent for the balance of the Term, plus

(2) a computation of Tenant's Proportionate Share of Basic Operating Costs for the balance of the Term, the assumed amount for the Computation Year of the default and each future Computation Year in the Term to be equal to Tenant's Proportionate Share of Basic Operating Costs for the Computation Year immediately prior to the year in which default occurs, compounded at a per annum rate equal to the mean average rate of inflation for the preceding five (5) calendar years as determined by the United States Department of Labor, Bureau of Labor Statistics Consumer Price Index (All Urban Consumers, all items (1982-84=100)) for the Metropolitan Area or Region in which the Project is located. If such Index is discontinued or revised, the average rate of inflation shall be determined by reference to the index designated as the successor or substitute index by the government of the United States.

(e) **Late Charge**. If any payment required to be made by Tenant under this Lease is not received by Landlord on or before the date the same is due, Tenant shall pay to Landlord an amount equal to ten percent (10%) of the delinquent amount. The parties agree that Landlord would incur costs not contemplated by this Lease by virtue of such delinquencies, including without limitation administrative, collection, processing and accounting expenses, the amount of which would be extremely difficult to compute, and the amount stated herein represents a reasonable estimate thereof. Acceptance of such late charge by Landlord shall in no event constitute a waiver of Tenant's breach or default with respect to such delinquency, or prevent Landlord from exercising any of Landlord's other rights and remedies. Notwithstanding the foregoing, in the first instance in any calendar year wherein Tenant is late in making a payment to Landlord of any sums payable by Tenant hereunder, the foregoing late charge shall not be assessed unless such payment is more than five (5) days past due after written notice from Landlord. After Landlord has given written notice of one (1) late payment in any calendar year, no other notices will be required during the remainder of the applicable calendar year for a late charge to be assessed to Tenant.

(f) **Interest on Past-Due Obligations**. Except as expressly otherwise provided in this Lease, any Rent due Landlord hereunder, other than late charges, which is not received by Landlord on the date on which it was due, shall bear interest from the day after it was due at the lesser of ten percent (10%) per annum or the maximum rate then allowed by law, in addition to the late charge provided for in Section 7.8(e).

(g) **Landlord's Right to Perform**. Notwithstanding anything to the contrary set forth elsewhere in this Lease, in the event Tenant fails to perform any affirmative duty or obligation of Tenant under this Lease, then Landlord may (but shall not be obligated to) perform such duty or obligation on Tenant's behalf without waiving any of Landlord's rights in connection therewith or releasing Tenant from any of its obligations or such default, including, without limitation, the obtaining of insurance policies or governmental licenses, permits or approvals. Tenant shall reimburse Landlord upon demand for the costs and expenses of any such performance (including penalties, interest and attorneys' fees incurred in connection therewith). Such costs and expenses incurred by Landlord shall be deemed Additional Rent hereunder.

(h) **Remedies Cumulative**. All rights, privileges and elections or remedies of Landlord are cumulative and not alternative with all other rights and remedies at law or in equity to the fullest extent permitted by law.

(i) **Waiver**. Tenant waives any right of redemption or relief from forfeiture under California Code of Civil Procedure Sections 1174 and 1179 and California Civil Code Section 3275, or under any other present or future law in the event Tenant is evicted and Landlord takes possession of the Leased Premises by reason of a default.

Article VIII

Tenant Options

8.1 Option to Renew.

(a) Landlord hereby grants to Tenant one (1) option (the "**Option**") to extend the term of this Lease for an additional period of five (5) years (the "**Option Term**"), all on the following terms and conditions:

(1) The Option must be exercised, if at all, by written notice irrevocably exercising the Option ("**Option Notice**") delivered by Tenant to Landlord not earlier than fifteen (15) months and not later than twelve (12) months prior to the Term Expiration Date. Further, at Landlord's option, the Option shall not be deemed to be properly exercised if, as of the date of the Option Notice or at the Term Expiration Date, (i) Tenant is in material default under this Lease, or (ii) Tenant has assigned this Lease or sublet any portion of the Leased Premises (other than with respect to a Permitted Transfer). Provided Tenant has properly and timely exercised the Option, the term of this Lease shall be extended for the period of the Option Term, and all terms, covenants and conditions of this Lease shall remain unmodified and in full force and effect, except that (i) the Landlord Improvements set forth in **Exhibit B** and the Base Building Upgrades set forth in **Exhibit B-1** shall not apply to the Option Term (Tenant shall accept the Leased Premises in its AS IS condition existing prior to the Option Term), and (ii) the Base Rent shall be modified as set forth in subsection 8.1(a)(2) below.

(2) The Base Rent payable for the initial year of the Option Term shall be the greater of (i) the Base Rent payable on the Term Expiration Date, or (ii) the then-current rental rate per rentable square foot (as further defined below, "**FMRR**") being agreed to (with annual market increases) in renewal leases by the Landlord and other landlords of buildings in the Emeryville, California area which are comparable in quality, location and prestige to the Building ("**Comparable Buildings**") and tenants leasing space in the Building or Comparable Buildings. As used herein, "FMRR" shall mean the rental rate per rentable square foot for which Landlord and/or other landlords are entering into renewal leases with tenants leasing space from Landlord and other landlords in the Building and/or Comparable Buildings ("**Comparative Transactions**"), taking into consideration fair market annual increases, and the value of existing tenant improvements in the Leased Premises. To the extent such other Comparable Buildings have historically received lower or higher rents from the rents in the Building, then for the purpose of arriving at the FMRR, such rates when used to establish the FMRR in the Building shall be increased or decreased as appropriate to reflect such historical differences. Landlord shall provide its determination of the FMRR to Tenant within twenty (20) days after Landlord receives the Option Notice. Tenant shall have ten (10) days ("**Tenant's Review Period**") after receipt of Landlord's notice of the FMRR within which to accept such FMRR or to reasonably object thereto in writing. In the event Tenant objects to the FMRR submitted by Landlord, Landlord and Tenant shall attempt to agree upon such FMRR. If Landlord and Tenant fail to reach agreement on such FMRR within ten (10) days following Tenant's Review Period (the "**Outside Agreement Date**"), then each party shall place in a separate sealed envelope its final proposal as to FMRR and such determination shall be submitted to arbitration in accordance with subparagraph 8.1(b) below.

(b) Landlord and Tenant shall meet with each other within three (3) business days of the Outside Agreement Date and exchange the sealed envelopes and then open such envelopes in each other's presence. If Landlord and Tenant do not mutually agree upon the FMRR within one (1) business day of the exchange and opening of envelopes, then, within ten (10) business days of the exchange and opening of envelopes, Landlord and Tenant shall agree upon and jointly appoint one arbitrator who shall be by profession be a real estate broker who shall have been active over the ten (10) year period ending on the date of such appointment in the leasing of comparable commercial properties in the vicinity of the Building. Neither Landlord nor Tenant shall consult with such broker as to his or her opinion as to FMRR prior to the appointment. The determination of the arbitrator shall be limited solely to the issue of whether Landlord's or Tenant's

submitted FMRR for the Leased Premises is the closer to the actual rental rate per rentable square foot for renewal leases for Comparative Transactions. Such arbitrator may hold such hearings and require such briefs as the arbitrator, in his or her sole discretion, determines is necessary. In addition, Landlord or Tenant may submit to the arbitrator with a copy to the other party within two (2) business days after the appointment of the arbitrator any data and additional information that such party deems relevant to the determination by the arbitrator ("**Data**") and the other party may submit a reply in writing within two (2) business days after receipt of such Data.

(1) The arbitrator shall, within thirty (30) days of his or her appointment, reach a decision as to whether the parties shall use Landlord's or Tenant's submitted FMRR, and shall notify Landlord and Tenant of such determination.

(2) The decision of the arbitrator shall be binding upon Landlord and Tenant.

(3) If Landlord and Tenant fail to agree upon and appoint such arbitrator, then the appointment of the arbitrator shall be made by the American Arbitration Association.

(4) The cost of arbitration shall be paid by Landlord and Tenant equally.

(5) The arbitration proceeding and all evidence given or discovered pursuant thereto shall be maintained in confidence by all parties.

Article IX

Miscellaneous Matters

9.1 Parking.

(a) Landlord agrees to provide Tenant for use by the employees, agents, customers and invitees of Tenant the number of parking spaces designated on the Basic Lease Information sheet on an unreserved and unassigned basis on those portions of the Project designated by Landlord for parking. Landlord shall have no obligation to monitor the use of the parking area. If Tenant is not the sole occupant of the Building and if a parking density problem occurs during the Term, Landlord may address the problem, in its reasonable discretion, which solution may include initiating a parking permit system or a reserved parking system and any costs associated therewith (including, without limitation, costs of patrolling the parking lot for compliance with the parking system) shall constitute a Basic Operating Costs. All parking shall be subject to any and all rules and regulations adopted by Landlord in its reasonable discretion from time to time, which rules and regulations shall be consistent with the prevailing market conditions, provided they have been delivered in writing to Tenant at least thirty (30) days prior to Landlord's adoptions of such rules and regulations. Only automobiles no larger than full size passenger automobiles or pick-up trucks or standard business use vehicles (which do not require parking spaces larger than full size passenger automobiles) may be parked in the Project parking area. Tenant shall not permit or allow any vehicles that belong to or are controlled by Tenant or Tenant's employees, agents, customers or invitees to be loaded, unloaded or parked in areas other than those designated by Landlord for such activities. A failure by Tenant or any of its employees, agents, customers or invitees to comply with the foregoing provisions shall afford Landlord the right, but not the obligation, without notice, in addition to any other rights and remedies available under this Lease, to remove and to tow away the vehicles involved and to charge the cost to Tenant, which cost shall be immediately due and payable upon demand by Landlord.

(b) Landlord reserves the right to charge a per-car parking fee during the Term if such parking fees are mandated or otherwise imposed by applicable law. Except for the foregoing, Landlord shall not charge Tenant parking fees during the initial Term or Option Term of this Lease.

9.2 Brokers. Tenant has been represented in this transaction by Tenant's Broker. Upon full execution of this Lease by both parties, Landlord shall pay to Tenant's Broker a fee for brokerage services rendered by it in this transaction provided for in separate written agreements between Landlord and Tenant's Broker. Tenant represents and warrants to Landlord that the brokers named in the Basic Lease Information sheet are the only agents, brokers, finders or other similar parties with whom Tenant has had any dealings in connection with the negotiation of this Lease and the consummation of the transaction contemplated hereby. Tenant hereby agrees to indemnify, defend and hold Landlord free and harmless from and against liability for compensation or charges which may be claimed by any agent, broker, finder or other similar party by reason of any dealings with or actions of Tenant in connection with the negotiation of this Lease and the consummation of this transaction, including any costs, expenses and attorneys' fees incurred with respect thereto.

9.3 No Waiver. No waiver by either party of the default or breach of any term, covenant or condition of this Lease by the other shall be deemed a waiver of any other term, covenant or condition hereof, or of any subsequent default or breach by the other of the same or of any other term, covenant or condition hereof. Landlord's consent to, or approval of, any act shall not be deemed to render unnecessary the obtaining of Landlord's consent to, or approval of, any subsequent or similar act by Tenant, or be construed as the basis of an estoppel to enforce the provision or provisions of this Lease requiring such consent. Regardless of Landlord's knowledge of a default or breach at the time of accepting Rent, the acceptance of Rent by Landlord shall not be a waiver of any preceding default or breach by Tenant of any provision hereof, other than the failure of Tenant to pay the particular Rent so accepted. Any payment given Landlord by Tenant may be accepted by Landlord on account of monies or damages due Landlord, notwithstanding any qualifying statements or conditions made by Tenant in connection therewith, which statements and/or conditions shall be of no force or effect whatsoever unless specifically agreed to in writing by Landlord at or before the time of deposit of such payment.

9.4 Recording. Neither this Lease nor a memorandum thereof shall be recorded without the prior written consent of Landlord, which consent may be withheld in Landlord's sole discretion.

9.5 Holding Over. If Tenant fails to surrender possession of the Leased Premises in the condition required under this Lease or holds over after expiration or termination of this Lease without the written consent of Landlord, Tenant shall pay for each month of hold-over tenancy one hundred fifty percent (150%) times the Gross Rent which Tenant was obligated to pay for the month immediately preceding the end of the Term for each month or any part thereof of any such

hold-over period, together with such other amounts as may become due hereunder. No holding over by Tenant after the Term shall operate to extend the Term. In the event of any unauthorized holding over, Tenant shall indemnify, defend and hold Landlord harmless from and against all claims, demands, liabilities, losses, costs, expenses (including attorneys' fees), injury and damages including any lost profits incurred by Landlord as a result of Tenant's delay in vacating the Leased Premises, provided Landlord gives Tenant thirty (30) days prior written notice notifying Tenant that it may suffer consequential damages if it holds over because the Leased Premises will be needed for, among other things, a replacement tenant or for improvements scheduled to be made to the Leased Premises.

9.6 Transfers by Landlord. The term "Landlord" as used in this Lease shall mean the owner(s) at the time in question of the fee title to the Leased Premises or, if this is a sublease, of the Tenant's interest in the master lease. If Landlord transfers, in whole or in part, its rights and obligations under this Lease or in the Project, upon its transferee's assumption of Landlord's obligations hereunder and delivery to such transferee of any unused Security Deposit then held by Landlord, no further liability or obligations shall thereafter accrue against the transferring or assigning person as Landlord hereunder. Subject to the foregoing, the obligations and/or covenants in this Lease to be performed by Landlord shall be binding only upon Landlord as defined in this Section 9.6.

9.7 Attorneys' Fees. In the event either party places the enforcement of this Lease (including, without limitation, a constructive eviction action by Tenant), or any part of it, or the collection of any Rent due, or to become due, hereunder, or recovery of the possession of the Leased Premises, in the hands of an attorney, or files suit upon the same, the prevailing party shall recover its reasonable attorneys' fees, costs and expenses as a cost of suit incurred and not as damages, including those which may be incurred on appeal. Such fees may be awarded in the same suit or recovered in a separate suit, whether or not suit is filed or any suit that may be filed is pursued to decision or judgment. The term "prevailing party" shall include, without limitation, a party who substantially obtains or defeats the relief sought, as the case may be, whether by compromise, settlement, judgment, or the abandonment by the other party of its claim or defense. The attorneys' fee award shall not be computed in accordance with any court fee schedule, but shall be such as to fully reimburse all attorneys' fees reasonably incurred. In addition to the foregoing, in the event Tenant requires Landlord's consent or signature with respect to an agreement or other matter not provided for in this Lease (e.g., an agreement requested by Tenant's lender), Tenant shall reimburse Landlord for its reasonable attorneys' fees or other consultant fees incurred in connection with the review and/or negotiation of such agreement or matter.

9.8 Termination; Merger. No act or conduct of Landlord, including, without limitation, the acceptance of keys to the Leased Premises, shall constitute an acceptance of the surrender of the Leased Premises by Tenant before the scheduled Term Expiration Date. Only a written notice from Landlord to Tenant shall constitute acceptance of the surrender of the Leased Premises and accomplish a termination of this Lease. Unless specifically stated otherwise in writing by Landlord, the voluntary or other surrender of this Lease by Tenant, the mutual termination or cancellation hereof, or a termination hereof by Landlord for default by Tenant, shall automatically terminate any sublease or lesser estate in the Leased Premises; provided, however, Landlord shall, in the event of any such surrender, termination or cancellation, have the option to continue any one or all of any existing subtenancies. Landlord's failure within thirty (30) days following any such event to make any written election to the contrary by written notice to the holder of any such lesser interest, shall constitute Landlord's election to have such event constitute the termination of such interest.

9.9 Amendments; Interpretation. This Lease may not be altered, changed or amended, except by an instrument in writing signed by the parties in interest at the time of the modification. The captions of this Lease are for convenience only and shall not be used to define or limit any of its provisions.

9.10 Severability. If any term or provision of this Lease, or the application thereof to any person or circumstances, shall to any extent be invalid or unenforceable, the remainder of this Lease, or the application of such provision to persons or circumstances other than those as to which it is invalid or unenforceable, shall not be affected thereby, and each provision of this Lease shall be valid and shall be enforceable to the fullest extent permitted by law.

9.11 Notices. Except as otherwise expressly provided herein, all notices, demands, consents and approvals which are required or permitted by this Lease to be given by either party to the other shall be in writing and shall be deemed to have been fully given by personal delivery or by recognized same day or overnight courier service or when deposited in the United States mail, certified or registered, with postage prepaid, and addressed to the party to be notified at the address for such party specified on the Basic Lease Information sheet, or to such other place as the party to be notified may from time to time designate by at least fifteen (15) days' notice to the notifying party given in accordance with this Section 9.11, except that upon Tenant's taking possession of the Leased Premises, the Leased Premises shall constitute Tenant's address for notice purposes. A copy of all notices given to Landlord under this Lease shall be concurrently transmitted to such party or parties at such addresses as Landlord may from time to time hereafter designate by notice to Tenant.

Any notice sent by registered or certified mail, return receipt requested, shall be deemed given on the date of delivery shown on the receipt card, or if no delivery date is shown, the postmark thereon. Notices delivered by recognized overnight courier shall be deemed given on the next business day after the business day upon which delivery of the same was made to the courier. If notice is received on a Saturday, Sunday or legal holiday, it shall be deemed received on the next business day. Tenant hereby appoints as its agent to receive the service of all default notices and notice of commencement of unlawful detainer proceedings the person in charge of or apparently in charge of or occupying the Leased Premises at the time, and, if there is no such person, then such service may be made by attaching the same on the main entrance of the Leased Premises.

9.12 Force Majeure. Any prevention, delay or stoppage of work to be performed by Landlord or Tenant which is due to strikes, labor disputes, inability to obtain labor, materials, equipment or reasonable substitutes therefor, acts of God, governmental restrictions or regulations or controls, judicial orders, enemy or hostile government actions, terrorism, civil commotion, or other causes beyond the reasonable control of the party obligated to perform hereunder, shall excuse performance of the work by that party for a period equal to the duration of that prevention, delay or stoppage. Nothing in this Section 9.12 shall excuse or delay Tenant's obligation to pay Rent or other charges due under this Lease.

9.13 Intentionally Omitted.

9.14 Successors and Assigns. This Lease shall be binding upon and inure to the benefit of Landlord, its successors and assigns (subject to the provisions hereof, including, without limitation, Section 5.15), and shall be binding upon and inure to the benefit of Tenant, its successors, and to the extent assignment or subletting, may be approved by Landlord hereunder, Tenant's assigns or subtenants.

9.15 Further Assurances. Landlord and Tenant each agree to promptly sign all documents reasonably requested to give effect to the provisions of this Lease.

9.16 Incorporation of Prior Agreements. This Lease, including the exhibits and addenda attached to it, contains all agreements of Landlord and Tenant with respect to any matter referred to herein. No prior agreement or understanding pertaining to such matters shall be effective.

9.17 Applicable Law. This Lease shall be governed by, construed and enforced in accordance with the laws of the State of California.

9.18 Time of the Essence. Time is of the essence of each and every covenant of this Lease. Each and every covenant, agreement or other provision of this Lease on Tenant's part to be performed shall be deemed and construed as a separate and independent covenant of Tenant, not dependent on any other provision of this Lease or on any other covenant or agreement set forth herein.

9.19 No Joint Venture. This Lease shall not be deemed or construed to create or establish any relationship of partnership or joint venture or similar relationship or arrangement between Landlord and Tenant hereunder.

9.20 Authority. If Tenant is a corporation, limited liability company, trust or general or limited partnership, each individual executing this Lease on behalf of Tenant represents and warrants that he or she is duly authorized to execute and deliver this Lease on Tenant's behalf and that this Lease is binding upon Tenant in accordance with its terms. If Tenant is a corporation, limited liability company, trust or partnership, Tenant shall, upon request by Landlord, deliver to Landlord evidence satisfactory to Landlord of such authority. If Landlord is a corporation, limited liability company, trust or general or limited partnership, each individual executing this Lease on behalf of Landlord represents and warrants that he or she is duly authorized to execute and deliver this Lease on Landlord's behalf and that this Lease is binding upon Landlord in accordance with its terms. If Landlord is a corporation, limited liability company, trust or partnership, Landlord shall, upon request by Tenant, deliver to Tenant evidence satisfactory to Tenant of such authority.

9.21 Landlord Renovations. Except as set forth herein, it is specifically understood and agreed that Landlord has no additional obligation and has made no additional promises to alter, remodel, improve, renovate, repair or decorate the Leased Premises, Building, Project, or any part thereof and that no representations or warranties respecting the condition of the Leased Premises, the Building or the Project have been made by Landlord to Tenant, except as specifically set forth in this Lease. However, Tenant acknowledges that Landlord may from time to time, at Landlord's sole option, renovate, improve, alter, or modify (collectively, the "**Renovations**") the Building,

Leased Premises, and/or Project, systems and equipment, roof, and structural portions of the same and in connection with such Renovations, Landlord may, among other things, erect scaffolding or other necessary structures in the Building, limit or eliminate access to portions of the Project, or perform work in the Building, which work may create noise, dust or leave debris in the Building; provided, however that Landlord shall not unreasonably interfere with Tenant's access, use and enjoyment of the Leased Premises or Building Top Roof Deck. Tenant hereby agrees that such Renovations and Landlord's actions in connection with such Renovations shall in no way constitute a constructive eviction of Tenant nor entitle Tenant to any abatement of Rent. Landlord shall have no responsibility or for any reason be liable to Tenant for any direct or indirect injury to or interference with Tenant's business arising from the Renovations, nor shall Tenant be entitled to any compensation or damages from Landlord for loss of the use of the whole or any part of the Leased Premises or of Tenant's personal property or improvements resulting from the Renovations or Landlord's actions in connection with such Renovations, or for any inconvenience or annoyance occasioned by such Renovations or Landlord's actions in connection with such Renovations.

9.22 Security. Landlord shall not be required to provide, operate or maintain alarm or surveillance systems or services for the Leased Premises or the Project. Tenant shall provide such security services and shall install within the Leased Premises such security equipment, systems and procedures that Tenant, in its sole discretion, determines is reasonably required for the protection of its employees, invitees, and property, provided that Tenant shall coordinate such services and equipment with Landlord, if necessary. The determination of the extent to which such security equipment, systems and procedures are reasonably required shall be made in the sole judgment, and shall be the sole responsibility, of Tenant. Tenant acknowledges that it has neither received nor relied upon any representation or warranty made by or on behalf of Landlord with respect to the safety or security of the Leased Premises or the Project or any part thereof, and further acknowledges that Tenant has made its own independent determinations with respect to all such matters.

9.23 Offer. Preparation of this Lease by Landlord or Landlord's agent and submission of same to Tenant shall not be deemed an offer to lease to Tenant. This Lease is not intended to be binding and shall not be effective until fully executed by both Landlord and Tenant.

9.24 No Easement For Light, Air and View. This Lease conveys to Tenant no rights for any light, air or view. No diminution of light, air or view, or any impairment of the visibility of the Leased Premises from inside or outside the Building, by any structure or other object that may hereafter be erected (whether or not by Landlord) shall entitle Tenant to any reduction of Rent under this Lease, constitute an actual or constructive eviction of Tenant, result in any liability of Landlord to Tenant, or in any other way affect this Lease or Tenant's obligations hereunder.

9.25 OFAC Compliance.

(a) Tenant represents and warrants that (i) Tenant and, to Tenant's actual knowledge, each person or entity owning an interest in Tenant is (A) not currently identified on the Specially Designated Nationals and Blocked Persons List maintained by the Office of Foreign Assets Control, Department of the Treasury ("**OFAC**") and/or on any other similar list maintained by OFAC pursuant to any authorizing statute, executive order or regulation (collectively, the "**List**"), and (B) not a person or entity with whom a citizen of the United States is prohibited to

engage in transactions by any trade embargo, economic sanction, or other prohibition of United States law, regulation, or Executive Order of the President of the United States, (ii) none of the funds or other assets of Tenant constitute property of, or are beneficially owned, directly or indirectly, by any Embargoed Person (as hereinafter defined), (iii) no Embargoed Person has any interest of any nature whatsoever in Tenant (whether directly or indirectly), (iv) none of the funds of Tenant have been derived from any unlawful activity with the result that the investment in Tenant is prohibited by law or that the Lease is in violation of law, and (v) Tenant has implemented procedures, and will consistently apply those procedures, to ensure the foregoing representations and warranties remain true and correct at all times. The term "Embargoed Person" means any person, entity or government subject to trade restrictions under U.S. law, including but not limited to, the International Emergency Economic Powers Act, 50 U.S.C. §1701 et seq., The Trading with the Enemy Act, 50 U.S.C. App. 1 et seq., and any Executive Orders or regulations promulgated thereunder with the result that the investment in Tenant is prohibited by law or Tenant is in violation of law.

(b) Tenant covenants and agrees (i) to comply with all requirements of law relating to money laundering, anti-terrorism, trade embargos and economic sanctions, now or hereafter in effect, (ii) to immediately notify Landlord in writing if any of the representations, warranties or covenants set forth in this paragraph or the preceding paragraph are no longer true or have been breached or if Tenant has a reasonable basis to believe that they may no longer be true or have been breached, (iii) not to use funds from any "Prohibited Person" (as such term is defined in the September 24, 2001 Executive Order Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten to Commit, or Support Terrorism) to make any payment due to Landlord under the Lease and (iv) at the request of Landlord, to provide such information as may be requested by Landlord to determine Tenant's compliance with the terms hereof.

(c) Tenant hereby acknowledges and agrees that Tenant's inclusion on the List at any time during the Term shall be a material default of the Lease. Notwithstanding anything herein to the contrary, Tenant shall not permit the Leased Premises or any portion thereof to be used or occupied by any person or entity on the List or by any Embargoed Person (on a permanent, temporary or transient basis), and any such use or occupancy of the Leased Premises by any such person or entity shall be a material default of the Lease.

(d) Simultaneously with the execution of the Lease, Tenant will provide to Landlord the names of the persons holding an ownership interest in Tenant, if required to comply with Presidential Executive Order 13224 (issued September 24, 2001).

9.26 Mortgagee Protection. Upon any default on the part of Landlord, Tenant will give written notice by registered or certified mail to any beneficiary of a deed of trust or mortgagee of a mortgage covering the Leased Premises who has provided Tenant with notice of their interest together with an address for receiving notice, and shall offer such beneficiary or mortgagee a reasonable opportunity to cure the default, including time to obtain possession of the Leased Premises by power of sale or a judicial foreclosure, if such should prove necessary to effect a cure. If such default cannot be cured within such time period, then such additional time as may be necessary will be given to such beneficiary or mortgagee to effect such cure so long as such beneficiary or mortgagee has commenced the cure within the original time period and thereafter

diligently pursues such cure to completion, in which event this Lease shall not be terminated while such cure is being diligently pursued. Tenant agrees that each lender to whom this Lease has been assigned by Landlord is an express third party beneficiary hereof. Tenant shall not make any prepayment of Rent more than one (1) month in advance without the prior written consent of each such lender. Tenant agrees to make all payments under this Lease to the lender with the most senior encumbrance upon receiving a direction, in writing, to pay said amounts to such lender. Tenant shall comply with such written direction to pay without determining whether an event of default exists under such lender's loan to Landlord. If, in connection with obtaining financing for the Leased Premises or any other portion of the Project, Landlord's lender shall request reasonable modification(s) to this Lease as a condition to such financing, Tenant shall not unreasonably withhold, delay or defer its consent thereto, provided such modifications do not materially and adversely affect Tenant's rights hereunder, including Tenant's use, occupancy or quiet enjoyment of the Leased Premises.

9.27 Confidentiality. Landlord and Tenant each agree that the terms of this Lease are confidential and constitute proprietary information of the parties hereto. Disclosure of the terms hereof could adversely affect the ability of Landlord to negotiate with other tenants. Each of the parties hereto agrees that such party, and its respective partners, officers, directors, employees, agents, real estate brokers and sales persons and attorneys, shall not disclose the terms and conditions of this Lease to any other person without the prior written consent of the other party hereto except pursuant to an order of a court of competent jurisdiction. Provided, however, that Tenant may disclose the terms hereof to prospective investors in subsequent rounds of financing (under confidentiality obligations to not disclose the terms and conditions of this Lease to any other person) and disclosures required of publicly traded companies (in the event that Tenant undergoes an initial public offering), that Landlord may disclose the terms hereof to any lender now or hereafter having a lien on Landlord's interest in the Project or any portion thereof, and either party may disclose the terms hereof to its respective independent accountants who review its respective financial statements or prepare its respective tax returns, to any prospective transferee of all or any portions of their respective interests hereunder, to any lender or prospective lender to such party, to any governmental entity, agency or person to whom disclosure is required by applicable law, regulation or duty of diligent inquiry and in connection with any action brought to enforce the terms of this Lease, on account of the breach or alleged breach hereof or to seek a judicial determination of the rights or obligations of the parties hereunder. Tenant acknowledges that any breach by Tenant of the agreements set forth in this Section 9.26 shall cause Landlord irreparable harm. The terms and provisions of this Section 9.26 shall survive the termination of the Lease (whether by lapse of time or otherwise).

9.28 Waiver of Jury Trial. To the extent permitted by applicable law, Landlord and Tenant each hereby waive trial by jury in any action, proceeding or counterclaim brought by either party against the other on any matter whatsoever arising out of or in any way connected with this Lease, the relationship of Landlord and Tenant created hereby, Tenant's use or occupancy of the Leased Premises or any claim or injury or damage.

9.29 Counterparts; Signatures. This Lease may be executed in counterparts. All executed counterparts shall constitute one agreement, and each counterpart shall be deemed an original. The parties hereby acknowledge and agree that facsimile signatures or signatures transmitted by electronic mail in so-called "pdf" format shall be legal and binding and shall have the same full force and effect as if an original of this Lease had been delivered. Landlord and Tenant (i) intend to be bound by the signatures on any document sent by facsimile or electronic mail, (ii) are aware that the other party will rely on such signatures, and (iii) hereby waive any defenses to the enforcement of the terms of this Lease based on the foregoing forms of signature.

9.30 Accessibility Inspection Disclosure. Landlord and Tenant acknowledge and agree that the Leased Premises has not been inspected by a Certified Access Specialist ("**CASp**") pursuant to Section 1938 of the Civil Code ("**Code**"). The parties further agree, pursuant to subdivision (e) of Section 55.53 of the Code the following:

(a) a CASp can inspect the Leased Premises and determine whether the Leased Premises complies with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the Leased Premises, Landlord may not prohibit Tenant from obtaining a CASp inspection of the Leased Premises for the occupancy or potential occupancy of Tenant, if requested by the Tenant. The parties shall mutually agree on the arrangements for the time and manner of the CASp inspection, the payment of the fee for the CASp inspection, and the cost of making any repairs necessary to correct violations of the construction- related accessibility standards within the Leased Premises.

(b) pursuant to the paragraph above, the parties expressly agree that, if Tenant elects to obtain a CASp inspection of the Leased Premises, Tenant shall be solely responsible for scheduling the inspection and that such inspection shall not unreasonably interfere with the operations of the Leased Premises and/or the Building or disturb any other tenant or occupant. Tenant shall be solely responsible for any and all costs to perform the CASp inspection, including any ancillary costs relating thereto. If the results of the inspection determine that modifications or alterations are required to meet all applicable construction-related accessibility standards, Tenant agrees to perform such work, in its sole cost and expense and provided approvals from Landlord are obtained under the Lease, as required. Tenant agrees that all work shall be performed in a first class manner in compliance with all laws and using best efforts to minimize any disruption to the Building and other tenants or occupants, if applicable. Furthermore, Tenant agrees that any report that is generated as a result of an inspection pursuant to this Section 9.30 and all information contained therein, shall remain confidential, except as necessary for Tenant to complete repairs and/or correct violations, as agreed herein.

9.31 Tax Status of Beneficial Owner. Tenant recognizes and acknowledges that Landlord and/or certain beneficial owners of Landlord may from time to time qualify as real estate investment trusts pursuant to Sections 856 et seq. of the Internal Revenue Code and that avoiding (a) the loss of such status, (b) the receipt of any income derived under any provision of this Lease that does not constitute "rents from real property" (in the case of real estate investment trusts), and (c) the imposition of income, penalty or similar taxes (each an "**Adverse Event**") is of material concern to Landlord and such beneficial owners. In the event that this Lease or any document contemplated hereby could, in the opinion of counsel to Landlord, result in or cause an Adverse Event, Tenant agrees to cooperate with Landlord in negotiating an amendment or modification thereof and shall at the request of Landlord execute and deliver such documents reasonably required to effect such amendment or modification. Any amendment or modification pursuant to this Section 9.31 shall be structured so that the economic results to Landlord and Tenant shall be substantially similar to those set forth in this Lease without regard to such amendment or modification. Without limiting any of Landlord's other rights under this Section 9.31, Landlord may waive the receipt of any amount payable to Landlord hereunder and such waiver shall constitute an amendment or modification of this Lease with respect to such payment.

9.32 Landlord's Reservations. In addition to the other rights of Landlord under this Lease, Landlord reserves the right to change the street address and/or name of the Building without being deemed to be guilty of an eviction, actual or constructive, or a disturbance or interruption of the business of Tenant or Tenant's use or occupancy of the Leased Premises.

9.33 Electric Charging Stations.

(a) Tenant shall have the right to install and operate, at Tenant's sole cost and expense, electric charging stations and associated equipment (collectively, the "**Electric Charging Stations**") in the parking area designated by Landlord, provided that Landlord has, in its reasonable discretion, approved in writing the design, size and weight of the equipment. The location, design, size and weight of such Electric Charging Stations may also be subject to the approval of the City of Emeryville and other applicable governmental authorities. The Electric Charging Stations shall at all times, during the Term of the Lease, remain the property of Tenant. Tenant acknowledges that installation of the Electric Charging Stations may cause a loss of a limited number of parking spaces on the Project.

(b) In installing the Electric Charging Stations, Tenant shall adhere to industry standards for installation and workmanship, all work to be completed to Landlord's reasonable satisfaction. Upon termination of the Lease, Tenant shall leave the Electric Charging Stations at the Project in good working order, or, if so requested by Landlord, remove the Electric Charging Stations and shall repair, to Landlord's reasonable satisfaction, any damage caused by the installation or removal of the Electric Charging Stations.

(c) Tenant shall, at its sole cost, immediately repair and restore to its prior condition, reasonable wear and tear, any damage to the Project caused by the installation, operation or maintenance of the Electric Charging Stations. If Tenant fails to repair and restore damage caused to the Project within a reasonable time, Landlord shall have the right to repair and restore such damage and receive reimbursement from Tenant of all reasonable costs incurred by Landlord. All costs incurred by Landlord as a result of the existence of the Electric Charging Stations shall be considered an extra service as set forth in Section 4.2 and shall be reimbursed by Tenant. The Electric Charging Stations shall be used solely for Tenant's employees and guests.

(d) All aspects and phases of Tenant's installation of the Electric Charging Stations shall at all times be subject to supervision and approval by Landlord (solely to protect Landlord's interests; Landlord shall have no obligation to Tenant to exercise any such power of supervision or approval). Tenant shall be responsible for procuring all consents, approvals, licenses or permits required for the installation, use, operation and removal of Tenant's equipment. Landlord makes no warranties or representations as to the permissibility of any such installation by Tenant. All costs and expenses incurred in connection with any such installation or proposed installation by Tenant, including, without limitation, any cost or expenses incurred by Landlord in connection with review or supervision or obtaining approvals, shall be borne by Tenant. Tenant shall at all times and at Tenant's sole expense be responsible for proper maintenance, repair and replacement of the Electric Charging Stations and all governmental permits and approvals required in connection therewith.

9.34 Equipment Financing. Landlord acknowledges that Tenant may lease from or finance with a third party ("Tenant's Creditor") Tenant's trade fixtures, equipment, inventory, and personal property utilized for Tenant's business operations in the Leased Premises (the "**Financed Equipment**"). Subject to Tenant reimbursing Landlord for its reasonable out-of-pocket expenses (e.g., legal fees), Landlord will execute and promptly deliver any commercially reasonable waiver, acknowledgments, or consents that may be required by Tenant's Creditor in connection with the leasing or financing of the Financed Equipment, which will include, without limitation, the following provisions:

(a) The agreement of Landlord that, as between Landlord and Tenant's Creditor, Tenant's Creditor will have the right, at reasonable times and with advance written notice to Landlord, to remove any or all of the Financed Equipment at any time or times before the Term Expiration Date, however, (i) in no event may Tenant's Creditor conduct a sale of the Financed Equipment on or around the Project, (ii) if such removal causes any damage to the Leased Premises, the Building, or the Common Areas, Tenant's Creditor shall either promptly repair such damage or reimburse Landlord promptly for the cost of repair, and (iii) if Tenant is no longer in lawful possession of the Leased Premises and Tenant's Creditor takes possession of the Leased Premises at any time in order to remove any or all of the Financed Equipment (which period of time shall not exceed ten (10) days), Tenant's Creditor agrees to pay Landlord, during the period while Tenant's Creditor is in possession of the Leased Premises, a license fee equivalent to the pro-rated monthly rental payments provided for in the Lease (however, only to the extent that Tenant has not paid rent for the applicable time period); "possession" shall commence on the date Tenant's Creditor is provided possession of the Leased Premises by Landlord and ends on Tenant's Creditor final departure from the Leased Premises. In no event may Tenant's Creditor possession of the Leased Premises exceed ten (10) days; and

(b) The Financed Equipment shall in no event include any and all existing or hereafter installed structural, electrical, mechanical, HVAC, plumbing and fire/life safety systems and related equipment and components, any fixtures or improvements which are necessary for the operation of the Building and/or the Leased Premises as a laboratory or life-science use (as opposed to the special purpose nature of Tenant's business in the Leased Premises), and any built-in furniture, built-in cabinetry, and built-in appliances.

9.35 Lease Contingency; Early Access.

(a) The effectiveness of this Lease is subject to Landlord's terminating the PD Lease. Landlord shall have a period expiring on February 28, 2021 to terminate the PD Lease (the "PD Lease Termination Expiration Date") and deliver the Leased Premises to Tenant pursuant to this Lease (the "**Delivery Date**"). If Landlord has not obtained such termination and has not delivered the Leased Premises to Tenant on or before the PD Lease Termination Expiration Date, Landlord or Tenant may elect to terminate this Lease upon written notice to the other party delivered at any time following the PD Lease Termination Expiration Date but prior to the Delivery Date, in which case this Lease shall be terminated and of no further force and effect, and Tenant shall be refunded all funds deposited or paid to Landlord and the Letter of Credit shall be returned to Tenant.

(b) Provided that the PD Lease has been terminated, Tenant shall have delivered the Security Deposit (letter of credit) and the pre-paid Base Rent to Landlord (pursuant to Section 3.3(a) of the Lease), and Tenant shall have procured all required insurance (and shall have delivered to Landlord all required insurance certificates), and to the extent allowed by applicable laws and allowed by applicable governmental authorities, Tenant shall be given access to the Leased Premises prior to the Term Commencement Date in order for Tenant to install Tenant's furniture, trade fixtures, equipment, telephone networks and computer networks. From the date Tenant is given early access to the Leased Premises as set forth above through the Term Commencement Date, Tenant shall be subject to all of the covenants in the Lease, except that Tenant's obligation to pay Rent shall commence in accordance with the Basic Lease Information sheet of the Lease; provided, however, (i) Tenant shall not enter the Leased Premises unless accompanied by a person designated by Landlord, if required by Landlord, and Tenant shall provide to Landlord at least 24 hours prior written notice prior to such entry, (ii) Tenant shall exercise such right of access in a manner that comports with the requirements of all relevant insurance policies, (iii) Tenant (and Tenant's contractors, vendors, agents, and employees) shall not disrupt or delay the performance of the Landlord Improvements or other improvements occurring in the Leased Premises, and (iv) Tenant (and Tenant's contractors, vendors, agents, and employees) shall in no event give directions to (or otherwise interfere with) the contractor or others performing the Landlord Improvements or other improvements occurring in the Leased Premises. In the event that the PD Lease has not yet been terminated, Tenant has delivered the Security Deposit and the pre-paid Base Rent to Landlord, and Tenant has procured all required insurance (and shall have delivered to Landlord all required insurance certificates), Landlord shall use good faith and diligent efforts to facilitate Tenant's early access rights to the Leased Premises with the Current Tenant.

9.36 Exhibits; Addenda. The following Exhibits and addenda are attached to, incorporated in and made a part of this Lease: **Exhibit A-1** Floor Plan of the Leased Premises; **Exhibit A-2** Legal Description of Project **Exhibit B** Landlord Improvements and Tenant's Work; **Exhibit B-1** Base Building Upgrades; **Exhibit C** Confirmation of Term of Lease; **Exhibit D** Building Rules and Regulations; **Exhibit E** Asbestos Notification; and **Exhibit F** Hazardous Materials Questionnaire.

IN WITNESS WHEREOF, the parties hereto have executed this Lease as of the day and year first written above.

"LANDLORD":

EPL HALLECK INVESTORS LLC, a California limited liability company

By: Ellis Partners LLC,
a California limited liability company
its Manager

By: /s/ James F. Ellis
Printed Name: James F. Ellis
Title: Managing Member

"TENANT":

METAGENOMI, INC.,
a Delaware corporation

By: /s/ Brian Thomas
Printed Name: Brian Thomas
Title: CEO

EXHIBIT A-1

FLOOR PLAN OF THE LEASED PREMISES

The parties acknowledge that the following plans were prepared by the Current Tenant's architect, the purpose of the following plans are solely to show the approximate general layout of the Leased Premises, and that Landlord makes no warranty and expressly disclaims all warranties as to the accuracy of the information included in the following plans as such information has been provided by others.

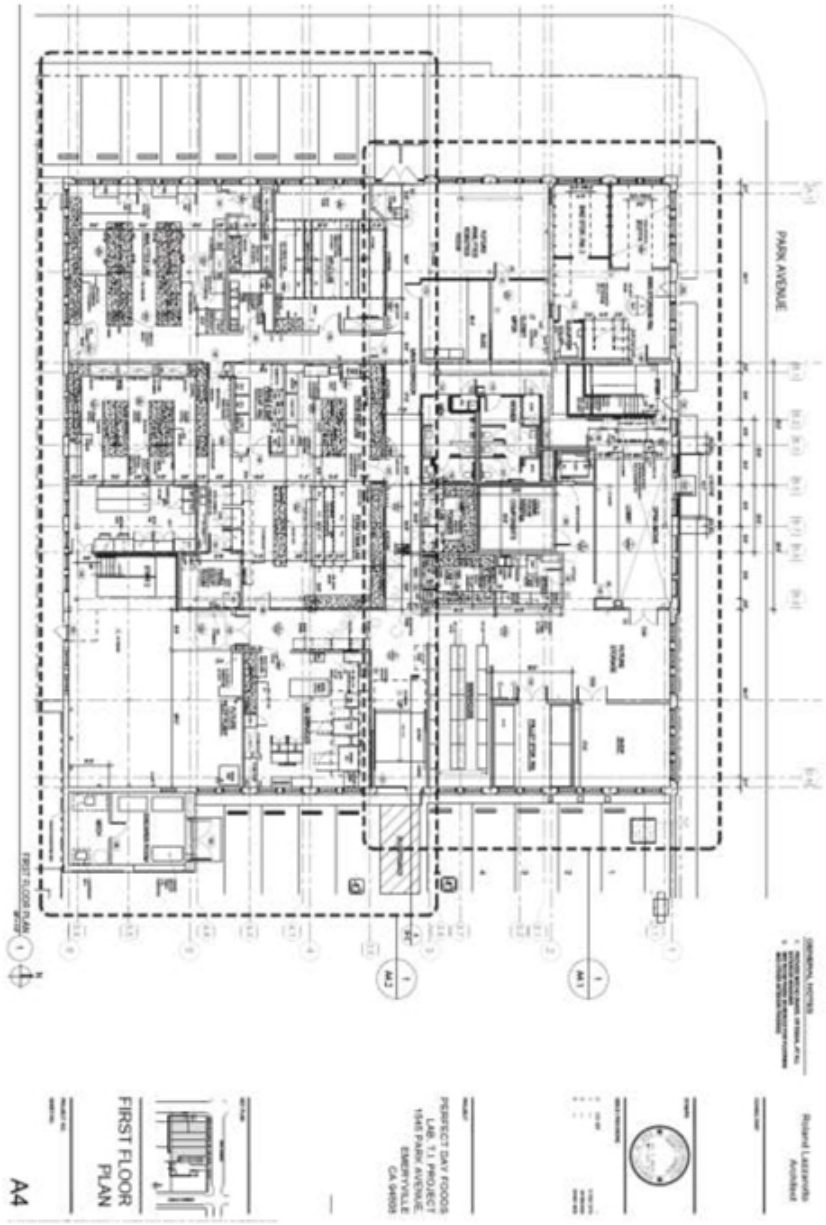


EXHIBIT A-1 CONTINUED

The parties acknowledge that the following plans were prepared by the Current Tenant's architect, the purpose of the following plans are solely to show the approximate general layout of the Leased Premises, and that Landlord makes no warranty and expressly disclaims all warranties as to the accuracy of the information included in the following plans as such information has been provided by others.

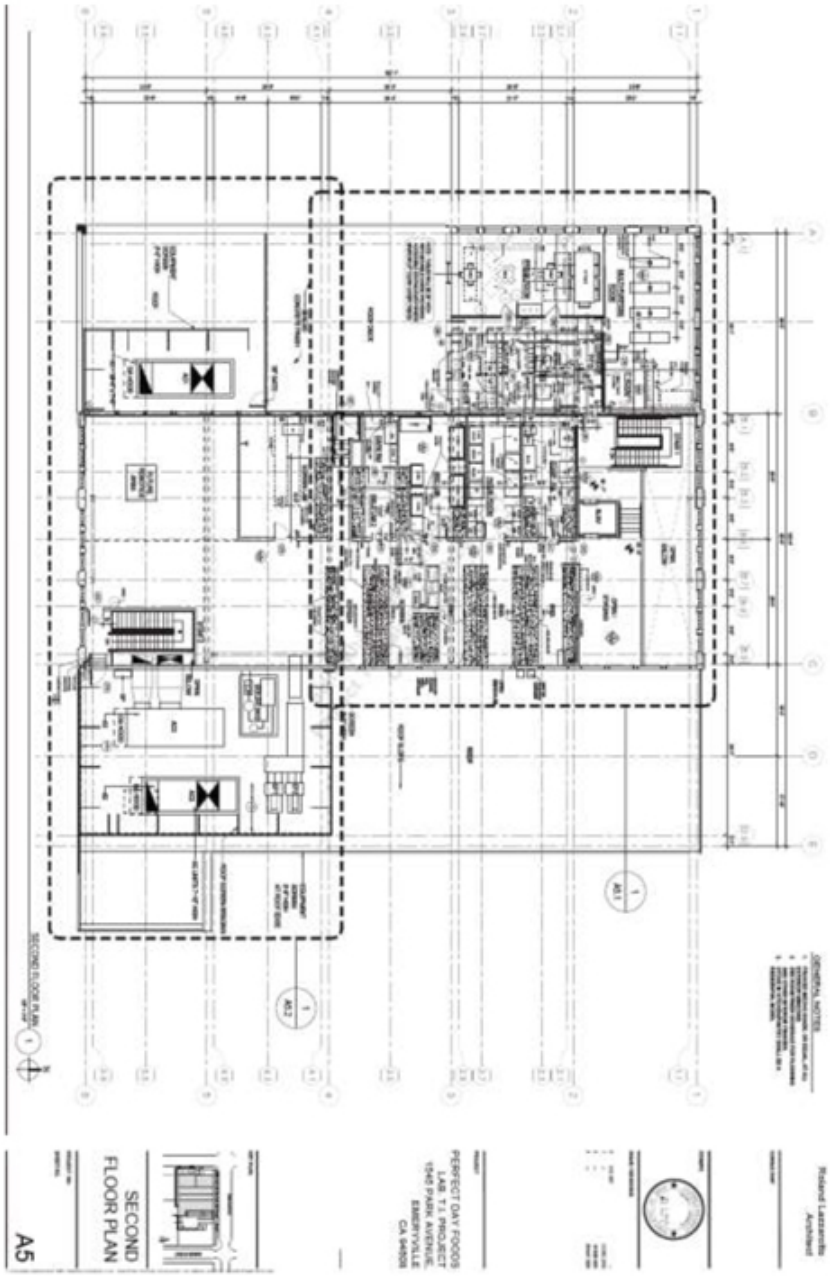


EXHIBIT A-2

LEGAL DESCRIPTION OF PROJECT

Real property in the City of Emeryville, County of Alameda, State of California, described as follows:

PARCEL ONE:

PORTION OF BLOCK 27, MAP OF PART OF PLOT 6 KELLERSBERGER'S SURVEY OF VICENTE & DOMINGO PERALTA RANCHO, PROPERTY OF J. S. EMERY, FILED MARCH 01, 1889, IN BOOK 19, PAGE 68, OF MAPS, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHERN LINE OF PARK AVENUE, DISTANT THEREON WESTERLY 76.50 FEET FROM THE WESTERN LINE OF HUBBARD STREET, AS SAID AVENUE AND STREET ARE SHOWN ON SAID MAP; RUNNING THENCE SOUTHERLY, PARALLEL WITH SAID WESTERN LINE OF HUBBARD STREET, 54.50 FEET; THENCE EASTERLY, PARALLEL WITH SAID SOUTHERN LINE OF PARK AVENUE, 19 FEET; THENCE SOUTHERLY, PARALLEL WITH SAID LINE OF HUBBARD STREET, 70.47 FEET; THENCE WESTERLY, PARALLEL WITH SAID LINE OF PARK AVENUE, 79.85 FEET; THENCE SOUTHERLY, PARALLEL WITH SAID LINE OF HUBBARD STREET, 4.925 FEET; THENCE WESTERLY, PARALLEL WITH SAID LINE OF PARK AVENUE, 128.65 FEET TO A POINT ON THE EASTERN LINE OF HALLECK STREET, AS SAID STREET IS SHOWN ON SAID MAP, DISTANT THEREON SOUTH 129.895 FEET FROM SAID SOUTHERN LINE OF PARK AVENUE; THENCE ALONG THE LAST MENTIONED LINE, NORTHERLY 129.895 FEET TO SAID SOUTHERN LINE OF PARK AVENUE; THENCE ALONG THE LAST MENTIONED LINE, EASTERLY 189.50 FEET TO THE POINT OF BEGINNING.

PARCEL TWO:

AN EASEMENT FOR INGRESS AND EGRESS OF ALL PEDESTRIAN AND VEHICULAR TRAFFIC, APPURTENANT TO AND FOR THE BENEFIT OF PARCEL ONE, ABOVE DESCRIBED, OVER, ALONG AND ACROSS THE PARCEL OF LAND DESCRIBED AS FOLLOWS:

PORTION OF BLOCK 27, MAP OF PART OF PLOT 6 KELLERSBERGER'S SURVEY OF VICENTE & DOMINGO PERALTA RANCHO, PROPERTY OF J.S. EMERY, FILED MARCH 01, 1889, IN BOOK 19, PAGE 68, OF MAPS, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE EASTERN LINE OF HALLECK STREET, DISTANT THEREON 129.895 FEET SOUTHERLY FROM THE SOUTHERN LINE OF PARK AVENUE, AS SAID STREET AND AVENUE ARE SHOWN ON SAID MAP; RUNNING THENCE EASTERLY, PARALLEL WITH SAID LINE OF PARK AVENUE, 128.65 FEET; THENCE SOUTHERLY, PARALLEL WITH SAID LINE OF HALLECK STREET, 4.925 FEET; THENCE WESTERLY, PARALLEL WITH SAID LINE OF PARK AVENUE, 128.65 FEET TO SAID

EASTERN LINE OF HALLECK STREET; THENCE ALONG THE LAST MENTIONED LINE, NORTHERLY 4.925 FEET TO THE POINT OF BEGINNING.

APN: 049-0617-005-06

EXHIBIT B

LANDLORD IMPROVEMENTS AND TENANT'S WORK

1. Landlord Improvements. Landlord, at Landlord's sole cost, shall remove the steam generator located in the Leased Premises and repair any damage caused by such removal (collectively, the "Landlord Improvements"). Landlord shall use good faith and diligent efforts to perform the Landlord Improvements within sixty (60) days of the date that the PD Lease is terminated. Notwithstanding the foregoing, the parties agree that any improvement or installation that is not referenced above shall be Tenant's responsibility and shall be part of Tenant's Work (as defined below).

2. Tenant's Occupation of the Leased Premises During Performance of the Landlord Improvements. Tenant will likely be in occupation of the Leased Premises during the construction or performance of the Landlord Improvements. Tenant, at its sole cost, shall be responsible for moving, if applicable, any of its furniture, fixtures, and equipment required with respect to the performance of the Landlord Improvements, and Tenant shall cooperate with Landlord in order to make the completion of the performance of the Landlord Improvements as efficient as reasonably possible. Landlord shall use commercially reasonable efforts to minimize interference with Tenant's use and occupation of the Leased Premises during performance of the Landlord Improvements; however, Tenant understands that some noise and dust will be unavoidable, and Tenant also understands that some portions or all of the Leased Premises must be cordoned off and cannot be used by Tenant during construction or performance of the Landlord Improvements. Landlord shall not be deemed to have evicted Tenant, nor shall there be any abatement of Rent, nor shall Tenant be relieved from performance of any covenant on its part to be performed under the Lease by reason of the performance of the Landlord Improvements.

3. Requirements for Work Performed by Tenant. All work performed at the Building by Tenant or Tenant's contractor or subcontractors prior to Tenant's commencing business operations ("Tenant's Work") shall be subject to the following additional requirements:

(a) Such work shall not proceed until Landlord has approved in writing (which approval shall not be unreasonably withheld, conditioned or delayed): (i) Tenant's contractor and the amount and coverage of public liability and property damage insurance, with Landlord named as an additional insured, on such liability coverage carried by Tenant's contractor, (ii) complete and detailed plans and specifications for such work (among other things, Landlord may condition its approval of any improvements on Tenant's agreement to remove them prior to the Term Expiration Date, repair any damage resulting from such removal and restore the Leased Premises to their condition existing prior to the date of the installation of such improvements), and (iii) a schedule for the work.

(b) All work shall be done in conformity with a valid permit when required, a copy of which shall be furnished to Landlord before such work is commenced. In any case, all such work shall be performed in accordance with all applicable laws. Notwithstanding any failure by Landlord to object to any such work, Landlord shall have no responsibility for Tenant's failure to comply with applicable laws.

(c) Tenant shall be responsible for cleaning the Leased Premises, the Building and the Project and removing all debris in connection with its work, except for work performed by the Landlord's contractor. All completed work shall be subject to inspection and acceptance by Landlord. Tenant shall reimburse Landlord for the actual out-of-pocket cost for all extra expense incurred by Landlord by reason of faulty work done by Tenant or Tenant's contractor or by reason of inadequate cleanup by Tenant or Tenant's contractor.

(d) Tenant (and Tenant's contractors, vendors, agents, and employees) performing Tenant's Work shall not disrupt or delay the performance of the Landlord Improvements.

EXHIBIT B-1

BASE BUILDING UPGRADES
(previously performed by Landlord under the PD Lease; items in *italics* below were the responsibility of the Current Tenant and not the responsibility of Landlord.)

Electrical: *Tenant responsible for installing entire electrical system of 1200A at 277/480* (revised per Second Amendment to PD Lease).

Gas: 1,620 MBH service serving roof top mechanical units.

Plumbing: Existing 1-1/2" water service connected to bathrooms and stubbed into the Tenant space with a shut-off valve for Tenant point of connection.

HVAC: *Tenant responsible for entire HVAC system* (revised per First Amendment to PD Lease).

Fire Sprinkler: Coverage throughout the building in a standard grid. *Tenant shall be responsible, at its sole cost and expense, for modifications required for Tenant Improvements*.

Fire Alarm: Modern FACP with devices distributed throughout the space to provide minimum coverage for warm shell turn over. *Tenant shall be responsible, at its sole cost and expense, for modifications required for Tenant Improvements*.

Bathrooms: New accessible men's and women's restrooms will be provided. The new 1st floor Men's restroom will have 2 water closets and 2 urinals while the women's will have 3 water closets. The new 2nd floor restroom will be a single stall ADA restroom. All restrooms will receive standard commercial fixtures and finishes at Landlord's discretion, which will be commensurate with the Tenant's intended use.

Interior Lighting: Landlord shall provide lighting inside of bathrooms, utility closets and stairs. *Tenant shall be responsible, at its sole cost and expense, for all other interior lighting to suit Tenant's program*.

Parking: Parking lots will be resurfaced and striped. *Tenant shall be responsible, at its sole cost and expense, for additional parking equipment, if desired by Tenant, in Tenant's sole and absolute discretion*.

Elevator: Landlord shall provide a passenger elevator and machine room adjacent to the existing stairs which will provide access to the new mezzanine and the existing 2nd floor office space. The elevator specifications are as follows:

Capacity: 3500 lbs.
Clear Car Inside Dimensions: 6 ft. 5 9/16 inches wide x 5 ft. 6 1/8 inches deep
Cab Height: 93 inches
Door Opening: 42 inches wide x 84 inches high

The cab interior finishes will be at Landlord's discretion and will be commensurate with the Tenant's intended use.

Floor Drains: Landlord shall provide under slab waste lines in general conformance with Plumbing 1st Floor Plan P2.1 dated 12/20/2018. Exact location will be coordinated with Tenant but will be limited to areas that can reasonably be reached via code minimum waste line slopes. *Tenant shall be responsible, at its sole cost and expense, for ejector pumps, if desired by Tenant, in Tenant's sole and absolute discretion*.

Mezzanine: Landlord will provide new 2nd Floor, aka the "Mezzanine," with a steel post and cable guardrail and in the configuration shown on **Exhibit A**. The floor structure will be designed to support a minimum of 80 lbs per square foot live load. A new enclosed stair will be added in the southeast corner of the new 2nd floor as shown on Tenant's Plans.

Roll Up Door: At the east side entrance from the parking lot a new glass panel style rollup door with a separate man door will be provided. The roll up will be approximately 6' wide and the man door will be approximately 3' wide.

Roof Decks: Landlord shall provide one fully improved roof deck on the west side roof, consisting of approximately 1,200 rentable square feet. *Tenant shall be responsible, at its sole cost and expense, for furniture, planting, irrigation, and accent lighting on the roof deck, if desired by Tenant, in Tenant's sole and absolute discretion*.

Painting: Landlord shall prime paint all newly constructed walls. Landlord shall remove any loose and peeling lead paint and spot prime in those locations. *Tenant shall be responsible, at its sole cost and expense, for finish painting of all surfaces, if desired by Tenant, in Tenant's sole and absolute discretion*.

Existing Concrete Floors: Landlord shall grout patch any major spalls and trip hazards. *Tenant shall be responsible, at its sole cost and expense, for floor finish, if desired by Tenant, in Tenant's sole and absolute discretion*.

New Concrete Floors: Landlord shall provide poured in place concrete surface with a color admixture. *Tenant shall be responsible, at its sole cost and expense, for floor finish, if desired by Tenant, in Tenant's sole and absolute discretion*.

Existing Carpeted Floors: Landlord shall remove existing carpet and underlayment. *Tenant shall be responsible, at its sole cost and expense, for floor finish, if desired by Tenant, in Tenant's sole and absolute discretion*.

EXHIBIT C

CONFIRMATION OF TERM OF LEASE

This Confirmation of Term of Lease is made by and between EPL HALLECK INVESTORS LLC, a California limited liability company, as Landlord, and _____, a _____, as Tenant, who agree as follows:

1. Landlord and Tenant entered into a Net Lease dated _____, _____(the "**Lease**"), in which Landlord leased to Tenant and Tenant leased from Landlord the Leased Premises described in the Basic Lease Information sheet of the Lease (the "**Leased Premises**").

2. Pursuant to Section 3.1 of the Lease, Landlord and Tenant hereby confirm as follows:

a. The Leased Premises contains the following: (i) approximately [_____] rentable square feet of office and R&D space and (ii) approximately [_____] rentable square feet of a roof deck,

b. _____, _____ is the Term Commencement Date (_____, _____ is the Rent Commencement Date);

c. _____, _____ is the Term Expiration Date; and

d. _____, _____ is the commencement date of Rent under the Lease.

3. Tenant hereby confirms that the Lease is in full force and effect and:

a. It has accepted possession of the Leased Premises as provided in the Lease;

b. The improvements and space required to be furnished by Landlord under the Lease have been furnished;

c. Landlord has fulfilled all of its duties of an inducement nature, except as follows:
_____

d. The Lease has not been modified, altered or amended, except as follows:
_____ and

e. There are no setoffs or credits against Rent and no security deposit has been paid except as expressly provided by the Lease.

4. The provisions of this Confirmation of Term of Lease shall inure to the benefit of, or bind, as the case may require, the parties and their respective successors, subject to the restrictions on assignment and subleasing contained in the Lease.

///signature page follows///

///**continued from previous page**///

DATED: _____, _____

"LANDLORD":

EPL HALLECK INVESTORS LLC, a California limited liability company

By: Ellis Partners LLC,
a California limited liability company its Manager

By:_____

Printed Name:_____

Title: Managing Member

"TENANT":

_____,
a _____

By:_____

Printed Name: _____

Title: _____

EXHIBIT D

BUILDING RULES AND REGULATIONS

The following rules and regulations shall apply to the Leased Premises and the Project:

1. Intentionally Omitted.

2. Tenant, at its expense, shall be responsible for providing all door locks in the Leased Premises and shall provide to Landlord, at Tenant's expense, contemporaneously with the installation of such devices, a master key, card keys, access codes or other means to allow Landlord immediate access to all areas within the Leased Premises.

3. Landlord may prescribe weight limitations and determine the locations for safes and other heavy equipment or items, which shall in all cases be placed in the Building so as to distribute weight in a manner reasonably acceptable to Landlord which may include the use of such supporting devices as Landlord may require, in Landlord's commercially reasonable discretion. All damage to the Building caused by the installation or removal of any property of Tenant, or done by Tenant's property while in the Building, shall be repaired at the expense of Tenant.

4. Plumbing (including outside drains and sump pumps), fixtures and appliances shall be used only for the purposes for which designed, and no sweepings, rubbish, rags or other unsuitable material shall be thrown or deposited therein. Damage resulting to any such fixtures or appliances from misuse by Tenant or its agents, employees or invitees, shall be paid by Tenant.

5. Sidewalks, doorways, hallways, loading areas and associated overhead doors, and other similar areas shall not be obstructed by Tenant or used by any tenant for purposes other than ingress and egress to and from their respective leased premises and for going from one to another part of the Building.

6. No birds or animals (other than service animals) shall be brought into or kept in, on or about the Leased Premises. No portion of the Leased Premises shall at any time be used or occupied as sleeping or lodging quarters.

7. Tenant shall not introduce, disturb or release asbestos or PCB's into or from the Leased Premises.

8. Except for limited quantities of standard office and janitorial supplies, but only to the extent reasonably necessary for Tenant's operations in the Leased Premises, and Hazardous Materials which may be used in a Laboratory (as defined in California Building Code Section 201) or Business Group B occupancies (as defined in California Building Code Section 304), Tenant shall not (i) keep in the Leased Premises any flammable or explosive fluid or substance and (ii) install or operate any steam or gas engine or boiler, or other mechanical apparatus in the Leased Premises without the prior written consent of Landlord. Except as set forth above, the use of oil, gas or inflammable liquids for heating, lighting or any other purpose is expressly prohibited. Explosives or other articles deemed extra hazardous shall not be brought into the Project.

9. Landlord will not be responsible for lost or stolen personal property, money or jewelry from the Leased Premises or the Project regardless of whether such loss occurs when the area is locked against entry or not.

10. Tenant shall not conduct any activity on or about the Leased Premises or the Project which will draw pickets, demonstrators, or the like.

11. All vehicles are to be currently licensed, in good operating condition, parked for business purposes having to do with Tenant's business operated in the Leased Premises, parked within designated parking spaces, one vehicle to each space. No vehicle shall be parked as a "billboard" vehicle in the parking lot. Any vehicle parked improperly may be towed away. Tenant, Tenant's agents, employees, vendors and customers who do not operate or park their vehicles as required shall subject the vehicle to being towed at the expense of the owner or driver. Tenant shall indemnify, hold and save harmless Landlord of and from any liability arising from the towing of any vehicles belonging to a party related to Tenant.

12. Tenant shall not park or operate any semi-trucks or semi-trailers in the parking areas associated with the Leased Premises.

13. No party shall wash and/or detail automobiles or perform automobile repair work (except in the event of an emergency) at the Project.

14. Canvassing, soliciting or peddling in or about the Leased Premises or the Project is prohibited and Tenant shall cooperate to prevent same.

15. Tenant shall not permit storage outside the Leased Premises, including outside storage of trucks and other vehicles, or dumping of waste or refuse or permit any harmful materials to be placed in any drainage system or sanitary system in or about the Leased Premises.

16. [intentionally deleted].

17. Tenant shall not install or operate on the Leased Premises any machinery or mechanical devices of a nature not directly related to Tenant's ordinary use of the Leased Premises.

18. Tenant will not permit any party related to Tenant to bring onto the Project any handgun, firearm or other weapons of any kind or illegal drugs.

19. Tenant shall not permit its employees, invitees or guests to smoke in the Building, or permit its employees, invitees or guests to loiter at the Building entrances for the purposes of smoking. Landlord may, but shall not be required to, designate an area for smoking outside the Building.

20. Other than bicycles, Tenant shall not bring into (or permit to be brought into) the Building any type of vehicle. In no event may a hoverboard or similar type of motorized device be charged in the Leased Premises or in the Project.

21. Tenant shall comply with all health, safety, fire protection and evacuation procedures and regulations established by Landlord or any governmental agency, and shall take reasonable measures to assure that Tenant's employees comply with such procedures and regulations. Health procedures and regulations include, but are not limited to, any protection measures in response to the COVID-19 pandemic or other public health-related condition. Such compliance shall include promptly informing Landlord if any employee or visitor to the Leased Premises has tested positive for COVID-19 or is reasonably believed to be or have been positive for COVID-19, and the date(s) of such presence at the Building and the area(s) of the Leased Premises visited. However, Tenant shall not be required to identify such person or otherwise breach any confidentiality rights of such person. Tenant shall comply with requests by Landlord concerning the informing of their employees of items of importance to the Landlord, including but not limited to promptly informing employees of any measure employees will be required to comply with in connection with health, safety, fire protection and evacuation procedures and regulations.

22. Landlord reserves the right to rescind any of these rules and regulations and to make future rules and regulations required for the safety, protection and maintenance of the Project, the operation and preservation of the good order thereof. Such rules and regulations, when made and written notice thereof given to Tenant, shall be binding as if originally included herein. Landlord reserves the right to exclude or expel from the Project any person who, in Landlord's judgment, is under the influence of liquor or drugs, or who shall in any manner do any act in violation of any of these rules and regulations.

EXHIBIT E

ASBESTOS NOTIFICATION

Asbestos-containing materials ("**ACMs**") were historically commonly used in the construction of commercial buildings across the country. ACMs were commonly used because of their beneficial qualities; ACMs are fire-resistant and provide good noise and temperature insulation.

Some common types of ACMs include surfacing materials (such as spray-on fireproofing, stucco, plaster and textured paint), flooring materials (such as vinyl floor tile and vinyl floor sheeting) and their associated mastics, carpet mastic, thermal system insulation (such as pipe or duct wrap, boiler wrap and cooling tower insulation), roofing materials, drywall, drywall joint tape and drywall joint compound, acoustic ceiling tiles, transite board, base cove and associated mastic, caulking, window glazing and fire doors. These materials are not required under law to be removed from any building (except prior to demolition and certain renovation projects). Moreover, ACMs generally are not thought to present a threat to human health unless they cause a release of asbestos fibers into the air, which does not typically occur unless (1) the ACMs are in a deteriorated condition, or (2) the ACMs have been significantly disturbed (such as through abrasive cleaning, or maintenance or renovation activities).

It is possible that some of the various types of ACMs noted above (or other types) are present at various locations in the Building. Anyone who finds any such materials in the Building should assume them to contain asbestos unless those materials are properly tested and found to be otherwise. In addition, under applicable law, certain of these materials are required to be presumed to contain asbestos in the Building because the Building was built prior to 1981 (these materials are typically referred to as "**Presumed Asbestos Containing Materials**" or "**PACM**"). PACM consists of thermal system insulation and surfacing material found in buildings constructed prior to 1981, and asphalt or vinyl flooring installed prior to 1981. If any thermal system insulation, asphalt or vinyl flooring or surfacing materials are found to be present in the Building, such materials must be considered PACM unless properly tested and found otherwise. In addition, Landlord has identified the presence of certain ACMs in the Building. For information about the specific types and locations of these identified ACMs, please contact the Building manager. The Building manager maintains or can obtain records of the Building's asbestos information including any Building asbestos surveys, sampling and abatement reports.

Because of the presence of ACM in the Building, we are also providing the following warning, which is commonly known as a California Proposition 65 warning:

WARNING: This Building contains asbestos, a chemical known to the State of California to cause cancer.

Please contact Landlord with any questions regarding the contents of this **Exhibit E**.

EXHIBIT F

HAZARDOUS MATERIALS QUESTIONNAIRE

Landlord: EPL HALLECK INVESTORS LLC

Tenant: METAGENOMI, INC.

Leased Premises: Approximately 23,851 rentable square feet consisting of the entire building located at 1545 Park Avenue, Emeryville, California

Date of Lease: _____, 2021

Contact Person for Hazardous Waste Materials Management and Manifests and Telephone Number(s) and Email Address(es):

_____

_____

Length of initial Term: Ten (10) years

Any and all capitalized terms used herein, which are not otherwise defined herein, shall have the same respective meanings ascribed to such terms in Tenant's lease for the Leased Premises.

1. **General Information:**

Describe the operations to take place in, on or about the Leased Premises, including, without limitation, principal products processed, manufactured or assembled services and activities to be provided or otherwise conducted. If this Questionnaire is an update delivered by an existing tenant, tenant should describe any proposed changes to on-going operations.

_____

_____

_____

_____

_____

2. **Use, Storage and Disposal of Hazardous Materials**

2.1 Will any Hazardous Materials be used, generated, stored or disposed of in, on or about the Leased Premises? Existing tenants should describe any Hazardous Materials which continue to be used, generated, stored or disposed of in, on or about the Leased Premises.

Wastes	Yes ☐	No ☐
Chemical Products	Yes ☐	No ☐
Other	Yes ☐	No ☐

If Yes is marked, please explain:_____

2.2 If Yes is marked in Section 2.1, attach a list of any Hazardous Materials to be used, generated, stored or disposed of in, on or about the Leased Premises, including the applicable hazard class and an estimate of the quantities of such Hazardous Materials at any given time; estimated annual throughput; the proposed location(s) and method of storage (excluding nominal amounts of ordinary household cleaners and janitorial supplies which are not regulated by any Environmental Laws); and the proposed location(s) and method of disposal for each Hazardous Material, including, the estimated frequency, and the proposed contractors or subcontractors. Existing tenants should attach a list setting forth the information requested above and such list should include actual data from on-going operations and the identification of any variations in such information from the prior year's certificate.

3. **Storage Tanks and Sumps**

3.1 Is any above or below ground storage of gasoline, diesel, petroleum, or other Hazardous Materials in tanks or sumps proposed in, on or about the Leased Premises? Existing tenants should describe any such actual or proposed activities.

Yes ☐ No ☐

If Yes, please explain:_____

4. **Waste Management**

4.1 Has your company been issued an EPA Hazardous Waste Generator I.D. Number? Existing tenants should describe any additional identification numbers issued since the previous certificate.

Yes ☐ No ☐

If Yes, provide the number(s):_____

4.2 Has your company filed a biennial or quarterly reports as a hazardous waste generator? Existing tenants should describe any new reports filed.

Yes ☐ No ☐

If Yes, attach a copy of the most recent report filed.

5. **Wastewater Treatment and Discharge**

5.1 Will your company discharge wastewater or other wastes to:

_____ storm drain? _____ sewer?
_____ surface water? _____ no wastewater or other wastes discharged.

Existing tenants should indicate any actual discharges. If so, describe the nature of any proposed or actual discharge(s).

_____

_____

5.2 Will any such wastewater or waste be treated before discharge?

Yes ☐ No ☐

If Yes, describe the type of treatment proposed to be conducted. Existing tenants should describe the actual treatment conducted.

6. **Air Discharges**

6.1 Do you plan for any air filtration systems or stacks to be used in your company's operations in, on or about the Leased Premises that will discharge into the air; and will such air emissions be monitored? Existing tenants should indicate whether or not there are any such air filtration systems or stacks in use in, on or about the Leased Premises which discharge into the air and whether such air emissions are being monitored.

Yes ☐ No ☐

If Yes, please describe :_____

_____

_____

6.2 Do you propose to operate any of the following types of equipment, or any other equipment requiring an air emissions permit? Existing tenants should specify any such equipment being operated in, on or about the Leased Premises.

_____ Spray booth(s) _____ Incinerator(s)
_____ Dip tank(s) _____ Other (please describe)
_____ Drying oven(s) _____ No equipment requiring air permits

If Yes, please describe :_____

_____

_____

7. **Hazardous Materials Disclosures**

7.1 Has your company prepared or will it be required to prepare a Hazardous Materials management plan ("Management Plan") pursuant to Fire Department or other governmental or regulatory agencies' requirements? Existing tenants should indicate whether or not a Management Plan is required and has been prepared.

Yes ☐ No ☐

If Yes, attach a copy of the Management Plan. Existing tenants should attach a copy of any required updates to the Management Plan.

7.2 Are any of the Hazardous Materials, and in particular chemicals, proposed to be used in your operations, in on or about the Leased Premises regulated under Proposition 65? Existing tenants should indicate whether or not there are any new Hazardous Materials being so used which are regulated under Proposition 65.

Yes ☐ No ☐

If Yes, please explain:

8. **Enforcement Actions and Complaints**

8.1 With respect to Hazardous Materials or Environmental Laws, has your company ever been subject to any agency enforcement actions, administrative orders, or consent decrees or has your company received requests for information, notice or demand letters, or any other inquiries regarding its operations? Existing tenants should indicate whether or not any such actions, orders or decrees have been, or are in the process of being, undertaken or if any such requests have been received.

Yes ☐ No ☐

If Yes, describe the actions, orders or decrees and any continuing compliance obligations imposed as a result of these actions, orders or decrees and also describe any requests, notices or demands, and attach a copy of all such documents. Existing tenants should describe and attach a copy of any new actions, orders, decrees, requests, notices or demands not already delivered to Landlord.

8.2 Have there ever been, or are there now pending, any lawsuits against your company regarding any environmental or health and safety concerns?

Yes ☐ No ☐

If Yes, describe any such lawsuits and attach copies of the complaint(s), cross-complaint(s), pleadings and all other documents related thereto as requested by Landlord. Existing tenants should describe and attach a copy of any new complaint(s), cross-complaint(s), pleadings and other related documents not already delivered to Landlord.

_____

_____

8.3 Have there been any problems or complaints from adjacent tenants, owners or other neighbors at your company's current facility(ies) with regard to environmental or health and safety concerns? Existing tenants should indicate whether or not there have been any such problems or complaints from adjacent tenants, owners or other neighbors at, about or near the Leased Premises.

Yes ☐ No ☐

If Yes, please describe. Existing tenants should describe any such problems or complaints not already disclosed to Landlord under the provisions of the Lease.

_____

_____

9. **Permits and Licenses**

9.1 Attach copies of all Hazardous Materials permits and licenses including a Transporter Permit number issued to your company with respect to its proposed operations in, on or about the Leased Premises, including, without limitation, any wastewater discharge permits, air emissions permits, and use permits or approvals. Existing tenants should attach copies of any new permits and licenses as well as any renewals of permits or licenses previously issued.

[SIGNATURE PAGE FOLLOWS]

The undersigned hereby acknowledges and agrees that (A) this Hazardous Materials Questionnaire is being delivered to Landlord in accordance with, and as required by, the provisions of Section 6.1(a) of the Lease and (B) that Tenant shall have and retain full and complete responsibility and liability with respect to any of the Hazardous Materials disclosed in this Questionnaire notwithstanding Landlord's/Tenant's receipt and/or approval of this Questionnaire. Tenant further agrees that none of the following described acts or events shall be construed or otherwise interpreted as either (a) excusing, diminishing or otherwise limiting Tenant from the requirement to fully and faithfully perform its obligations under the Lease with respect to Hazardous Materials, including, without limitation, as set forth in this Lease, Tenant's indemnification of Landlord and compliance with all Governmental Requirements, or (b) imposing upon Landlord any duty or liability with respect to any such Hazardous Materials, including, without limitation, any duty on Landlord to investigate or otherwise verify the accuracy of the representations and statements made therein or to ensure that Tenant is in compliance with all Governmental Requirements: (i) the delivery of such Questionnaire to Landlord and/or Landlord's acceptance of such Questionnaire, (ii) Landlord's review and approval of such Questionnaire, (iii) Landlord's failure to obtain such Questionnaire from Tenant at any time, or (iv) Landlord's actual or constructive knowledge of the types and quantities of Hazardous Materials being used, stored, generated, disposed of or transported on or about the Leased Premises by Tenant or Tenant's representatives. Notwithstanding the foregoing or anything to the contrary contained herein, the undersigned acknowledges and agrees that Landlord and its partners, lenders, agents and representatives may, and will, rely upon the statements, representations, warranties and certifications made herein and the truthfulness thereof in entering into the Lease and the continuance thereof throughout the Term of the Lease, and any renewals thereof.

I, (*print name*) _____, acting with full authority to bind Tenant and on behalf of Tenant, hereby certify, represent and warrant that the information contained in this Questionnaire is true and correct.

Tenant:

METAGENOMI, INC.,
a Delaware corporation

By: _____
Printed Name: _____
Title: _____
Date: _____, 20___

SCHEDULE 1.20

FORM OF LETTER OF CREDIT

L/C DRAFT LANGUAGE

IRREVOCABLE STANDBY LETTER OF CREDIT NUMBER _____

ISSUE DATE: _____

ISSUING BANK:
SILICON VALLEY BANK
3003 TASMAN DRIVE
2ND FLOOR, MAIL SORT HF210
SANTA CLARA, CALIFORNIA 95054

BENEFICIARY:
EPL HALLECK INVESTORS LLC
C/O ELLIS PARTNERS LLC
111 SUTTER STREET, SUITE 800
SAN FRANCISCO CA 94104
ATTN: JAMES F. ELLIS
EMAIL:
PHONE: APPLICANT:

APPLICANT:
METAGENOMI, INC.
5980 HORTON STREET SUITE 600
EMERYVILLE CA 94608

AMOUNT:	US$3,300,000.00 (THREE MILLION THREE HUNDRED THOUSAND AND 00/100 U.S. DOLLARS)
EXPIRATION DATE:	SVB WILL PUT A SPECIFIC DATE HERE THAT'S 1 YEAR ISSUANCE HERE
PLACE OF EXPIRATION:	ISSUING BANK'S COUNTERS AT ITS ABOVE ADDRESS

DEAR SIR/MADAM:

AT THE REQUEST AND FOR THE ACCOUNT OF METAGENOMI, INC. ("APPLICANT"), WE HEREBY ESTABLISH OUR IRREVOCABLE STANDBY LETTER OF CREDIT NO. SVBSF IN YOUR FAVOR AVAILABLE BY PAYMENT AGAINST YOUR PRESENTATION TO US OF THE FOLLOWING DOCUMENT:

ALL THE DETAILS SET FORTH HEREIN IN THIS LETTER OF CREDIT DRAFT IS APPROVED BY APPLICANT. IF THERE IS ANY DISCREPANCY BETWEEN THE DETAILS OF THIS LETTER OF CREDIT DRAFT AND THE LETTER OF CREDIT APPLICATION, BETWEEN APPLICANT AND SILICON VALLEY BANK, THE DETAILS HEREOF SHALL PREVAIL.

_____ _____

AUTHORIZED SIGNATURE DATE

1. BENEFICIARY'S SIGNED AND DATED STATEMENT STATING AS FOLLOWS:

"AN EVENT OF DEFAULT (AS DEFINED IN THE LEASE) HAS OCCURRED UNDER THAT CERTAIN LEASE AGREEMENT BETWEEN METAGENOMI, INC., AS TENANT, AND EPL HALLECK INVESTORS LLC, AS LANDLORD, AS AMENDED, SUPPLEMENTED OR OTHERWISE MODIFIED TO DATE. THE UNDERSIGNED HEREBY CERTIFIES THAT: (I) THE UNDERSIGNED IS AN AUTHORIZED REPRESENTATIVE OF LANDLORD; (II) LANDLORD IS THE BENEFICIARY OF LETTER OF CREDIT NO. SVBSF _____ ISSUED BY SILICON VALLEY BANK; (III) LANDLORD HAS GIVEN WRITTEN NOTICE TO TENANT (IF REQUIRED UNDER THE LEASE) TO CURE THE DEFAULT PURSUANT TO THE TERMS OF THE LEASE; (IV) SUCH DEFAULT HAS NOT BEEN CURED UP TO THIS DATE OF DRAWING UNDER THE LETTER OF CREDIT; (V) LANDLORD IS AUTHORIZED TO DRAW DOWN ON THE LETTER OF CREDIT; AND (VI) LANDLORD WILL HOLD THE FUNDS DRAWN UNDER THE LETTER OF CREDIT AS SECURITY DEPOSIT FOR TENANT OR APPLY SAID FUNDS TO TENANT'S OBLIGATION UNDER THE LEASE. THE AMOUNT HEREBY DRAWN UNDER THE LETTER OF CREDIT IS US$ _____, WITH PAYMENT TO BE MADE TO THE FOLLOWING ACCOUNT: [INSERT WIRE INSTRUCTIONS (TO INCLUDE NAME AND ACCOUNT NUMBER OF THE BENEFICIARY)]."

PARTIAL DRAWS AND MULTIPLE PRESENTATIONS ARE ALLOWED.

THIS LETTER OF CREDIT SHALL BE AUTOMATICALLY EXTENDED FOR ADDITIONAL PERIODS OF ONE YEAR, WITHOUT AMENDMENT, FROM THE PRESENT OR EACH FUTURE EXPIRATION DATE UNLESS AT LEAST SIXTY (60) DAYS PRIOR TO THE THEN CURRENT EXPIRATION DATE WE SEND TO YOU A NOTICE BY REGISTERED OR CERTIFIED MAIL OR OVERNIGHT COURIER SERVICE AT THE ABOVE ADDRESS (OR ANY OTHER ADDRESS INDICATED BY YOU, IN A WRITTEN NOTICE TO US THE RECEIPT OF WHICH WE HAVE ACKNOWLEDGED, AS THE ADDRESS TO WHICH WE SHOULD SEND SUCH NOTICE) THAT THIS LETTER OF CREDIT WILL NOT BE EXTENDED BEYOND THE THEN CURRENT EXPIRATION DATE. IN NO EVENT SHALL THIS LETTER OF CREDIT BE AUTOMATICALLY EXTENDED BEYOND MARCH 31, 2031. IN THE EVENT WE SEND SUCH NOTICE OF NON-EXTENSION, YOU MAY DRAW HEREUNDER BY YOUR PRESENTATION TO US OF YOUR SIGNED AND DATED STATEMENT STATING THAT YOU HAVE RECEIVED A NON-EXTENSION NOTICE FROM SILICON VALLEY BANK IN RESPECT OF LETTER OF CREDIT NO. SVBSF _____, YOU ARE DRAWING ON SUCH LETTER OF CREDIT FOR US$ _____, AND YOU HAVE NOT RECEIVED A REPLACEMENT LETTER OF CREDIT ACCEPTABLE TO YOU.

ALL DEMANDS FOR PAYMENT SHALL BE MADE BY PRESENTATION OF THE REQUIRED DOCUMENTS ON A BUSINESS DAY AT OUR OFFICE (THE "BANK'S OFFICE") AT: SILICON VALLEY BANK, 3003 TASMAN DRIVE, MAIL SORT HF 210, SANTA CLARA, CA 95054, ATTENTION: GLOBAL TRADE FINANCE. AS USED IN THIS LETTER OF CREDIT, "BUSINESS DAY" SHALL MEAN ANY DAY OTHER THAN A SATURDAY, SUNDAY OR A DAY ON WHICH BANKING INSTITUTIONS IN THE STATE OF CALIFORNIA ARE AUTHORIZED OR REQUIRED BY LAW TO CLOSE.

ALL THE DETAILS SET FORTH HEREIN IN THIS LETTER OF CREDIT DRAFT IS APPROVED BY APPLICANT. IF THERE IS ANY DISCREPANCY BETWEEN THE DETAILS OF THIS LETTER OF CREDIT DRAFT AND THE LETTER OF CREDIT APPLICATION, BETWEEN APPLICANT AND SILICON VALLEY BANK, THE DETAILS HEREOF SHALL PREVAIL.

_____ _____

AUTHORIZED SIGNATURE DATE

FACSIMILE PRESENTATIONS ARE ALSO PERMITTED. EACH FACSIMILE TRANSMISSION SHALL BE MADE AT: (408) 496-2418 OR (408) 969-6510; AND UNDER CONTEMPORANEOUS TELEPHONE ADVICE TO: (408) 450-5001 OR (408) 654-7176, ATTENTION: GLOBAL TRADE FINANCE. ABSENCE OF THE AFORESAID TELEPHONE ADVICE SHALL NOT AFFECT OUR OBLIGATION TO HONOR ANY DRAW REQUEST.

THIS LETTER OF CREDIT IS TRANSFERABLE IN WHOLE BUT NOT IN PART ONE OR MORE TIMES, BUT IN EACH INSTANCE ONLY TO A SINGLE BENEFICIARY AS TRANSFEREE AND FOR THE THEN AVAILABLE AMOUNT, ASSUMING SUCH TRANSFER TO SUCH TRANSFEREE WOULD BE IN COMPLIANCE WITH THEN APPLICABLE LAW AND REGULATION, INCLUDING BUT NOT LIMITED TO THE REGULATIONS OF THE U.S. DEPARTMENT OF TREASURY AND U.S. DEPARTMENT OF COMMERCE. AT THE TIME OF TRANSFER, THE ORIGINAL LETTER OF CREDIT AND ORIGINALS OR COPIES OF ALL AMENDMENTS, IF ANY, TO THIS LETTER OF CREDIT MUST BE SURRENDERED TO US AT OUR ADDRESS INDICATED IN THIS LETTER OF CREDIT TOGETHER WITH OUR TRANSFER FORM ATTACHED HERETO AS EXHIBIT A DULY EXECUTED. APPLICANT SHALL PAY OUR TRANSFER FEE OF ¼ OF 1% OF THE TRANSFER AMOUNT (MINIMUM US$250.00) UNDER THIS LETTER OF CREDIT. EACH TRANSFER SHALL BE EVIDENCED BY EITHER (1) OUR ENDORSEMENT ON THE REVERSE OF THE LETTER OF CREDIT AND WE SHALL FORWARD THE ORIGINAL OF THE LETTER OF CREDIT SO ENDORSED TO THE TRANSFEREE OR (2) OUR ISSUING A REPLACEMENT LETTER OF CREDIT TO THE TRANSFEREE ON SUBSTANTIALLY THE SAME TERMS AND CONDITIONS AS THE TRANSFERRED LETTER OF CREDIT (IN WHICH EVENT THE TRANSFERRED LETTER OF CREDIT SHALL HAVE NO FURTHER EFFECT).

IF ANY INSTRUCTIONS ACCOMPANYING A DRAWING UNDER THIS LETTER OF CREDIT REQUEST THAT PAYMENT IS TO BE MADE BY TRANSFER TO YOUR ACCOUNT WITH ANOTHER BANK, WE WILL ONLY EFFECT SUCH PAYMENT BY FED WIRE TO A U.S. REGULATED BANK, AND WE AND/OR SUCH OTHER BANK MAY RELY ON AN ACCOUNT NUMBER SPECIFIED IN SUCH INSTRUCTIONS EVEN IF THE NUMBER IDENTIFIES A PERSON OR ENTITY DIFFERENT FROM THE INTENDED PAYEE.

THIS LETTER OF CREDIT IS SUBJECT TO THE INTERNATIONAL STANDBY PRACTICES (ISP98), INTERNATIONAL CHAMBER OF COMMERCE, PUBLICATION NO. 590.

ALL THE DETAILS SET FORTH HEREIN IN THIS LETTER OF CREDIT DRAFT IS APPROVED BY APPLICANT. IF THERE IS ANY DISCREPANCY BETWEEN THE DETAILS OF THIS LETTER OF CREDIT DRAFT AND THE LETTER OF CREDIT APPLICATION, BETWEEN APPLICANT AND SILICON VALLEY BANK, THE DETAILS HEREOF SHALL PREVAIL.

AUTHORIZED SIGNATURE	DATE

AUTHORIZED SIGNATURE

AUTHORIZED SIGNATURE

ALL THE DETAILS SET FORTH HEREIN IN THIS LETTER OF CREDIT DRAFT IS APPROVED BY APPLICANT. IF THERE IS ANY DISCREPANCY BETWEEN THE DETAILS OF THIS LETTER OF CREDIT DRAFT AND THE LETTER OF CREDIT APPLICATION, BETWEEN APPLICANT AND SILICON VALLEY BANK, THE DETAILS HEREOF SHALL PREVAIL.

AUTHORIZED SIGNATURE

DATE

IRREVOCABLE STANDBY LETTER OF CREDIT NUMBER _____

EXHIBIT A

FORM OF TRANSFER FORM

DATE: _____

TO: SILICON VALLEY BANK
3003 TASMAN DRIVE
SANTA CLARA, CA 95054
ATTN: GLOBAL TRADE FINANCE
STANDBY LETTERS OF CREDIT

RE: IRREVOCABLE STANDBY LETTER OF CREDIT
NO. _____ ISSUED BY
SILICON VALLEY BANK, SANTA CLARA
L/C AMOUNT: _____

GENTLEMEN:

FOR VALUE RECEIVED, THE UNDERSIGNED BENEFICIARY HEREBY IRREVOCABLY TRANSFERS TO:

_____

(NAME OF TRANSFEREE)

_____

(ADDRESS)

ALL RIGHTS OF THE UNDERSIGNED BENEFICIARY TO DRAW UNDER THE ABOVE LETTER OF CREDIT UP TO ITS AVAILABLE AMOUNT AS SHOWN ABOVE AS OF THE DATE OF THIS TRANSFER.

BY THIS TRANSFER, ALL RIGHTS OF THE UNDERSIGNED BENEFICIARY IN SUCH LETTER OF CREDIT ARE TRANSFERRED TO THE TRANSFEREE. TRANSFEREE SHALL HAVE THE SOLE RIGHTS AS BENEFICIARY THEREOF, INCLUDING SOLE RIGHTS RELATING TO ANY AMENDMENTS, WHETHER INCREASES OR EXTENSIONS OR OTHER AMENDMENTS, AND WHETHER NOW EXISTING OR HEREAFTER MADE. ALL AMENDMENTS ARE TO BE ADVISED DIRECTLY TO THE TRANSFEREE WITHOUT NECESSITY OF ANY CONSENT OF OR NOTICE TO THE UNDERSIGNED BENEFICIARY.

ALL THE DETAILS SET FORTH HEREIN IN THIS LETTER OF CREDIT DRAFT IS APPROVED BY APPLICANT. IF THERE IS ANY DISCREPANCY BETWEEN THE DETAILS OF THIS LETTER OF CREDIT DRAFT AND THE LETTER OF CREDIT APPLICATION, BETWEEN APPLICANT AND SILICON VALLEY BANK, THE DETAILS HEREOF SHALL PREVAIL.

_____ _____

AUTHORIZED SIGNATURE DATE

THE ORIGINAL OF SUCH LETTER OF CREDIT IS RETURNED HEREWITH, AND WE ASK YOU TO EITHER (1) ENDORSE THE TRANSFER ON THE REVERSE THEREOF, AND FORWARD IT DIRECTLY TO THE TRANSFEREE WITH YOUR CUSTOMARY NOTICE OF TRANSFER, OR (2) ISSUE A REPLACEMENT LETTER OF CREDIT TO THE TRANSFEREE ON SUBSTANTIALLY THE SAME TERMS AND CONDITIONS AS THE TRANSFERRED LETTER OF CREDIT (IN WHICH EVENT THE TRANSFERRED LETTER OF CREDIT SHALL HAVE NO FURTHER EFFECT).

SINCERELY,

(BENEFICIARY'S NAME)

(SIGNATURE OF BENEFICIARY)

(NAME AND TITLE)

SIGNATURE AUTHENTICATED

The name(s), title(s), and signature(s) conform to that/those on file with us for the company and the signature(s) is/are authorized to execute this instrument.

(Name of Bank)

(Address of Bank)

(City, State, ZIP Code)

(Authorized Name and Title)

(Authorized Signature)

(Telephone number)

ALL THE DETAILS SET FORTH HEREIN IN THIS LETTER OF CREDIT DRAFT IS APPROVED BY APPLICANT. IF THERE IS ANY DISCREPANCY BETWEEN THE DETAILS OF THIS LETTER OF CREDIT DRAFT AND THE LETTER OF CREDIT APPLICATION, BETWEEN APPLICANT AND SILICON VALLEY BANK, THE DETAILS HEREOF SHALL PREVAIL.

AUTHORIZED SIGNATURE

DATE

SCHEDULE 2.20

LIST OF PUNCHLIST ITEMS
(to be completed by the Current Tenant)

1545 Park - Perfect Day Punch List 12/16/2020 Completion Due Date ASAP

Item	Floor	Location	Action Required	Responsible	Complete	Notes
1	1	Future *Analytics Robotics room*	Janitorial and final clean up	Franklin		
16	1	*Bike Storage rm. #2*	Adjust sprinkler heads	Lyons		
21	1	*Bike Storage rm. 109*	Final janitorial	Franklin		
31	1	*IT Closet/MPOE 111*	Janitorial	Franklin		
37	1	*IT Cioset/MPOE 111*	Patch/paint penetrations	Rossi/Performance		
40	1	*Electrical Room 112*	Final janitorial	Franklin		
48	1	*Main Corridor 101*	Janitorial	Franklin		
53	1	*Main Restrooms*	Paint touch up	Proforma nee		
57	1	*Stairwell ill*	Rework black base at second floor	East Bay Floor		In progress
58	1	*Stairwell ill*	Install rubber base	East Bay Floor		
61	1	*Hallway 108 (adjacent to main restrooms)*	Janitorial	Franklin		
73	1	*Lobby 105*	Janitorial	Franklin		
82	1	*Hallway (elevator)*	Janitorial	Franklin		
85	1	*Cold Room/Pre Fab Components 130*	Janitorial	Franklin		
91	1	*Powder Lab 133*	Janitorial	Franklin		
97	1	*Gel Lab 1.132*	Janitorial	Franklin		
104	1	*Spray Dry Lab 131*	Janitorial	Franklin		
108	1	*Future Storage 134A*	Janitorial	Franklin		
112	1	*Warehouse*	Janitorial	Franklin		
117	1	*Shop* 134B	Janitorial	Franklin		
124	1	*Pallet Storage 134*	Janitorial	Franklin		
128	1	*Ramp 121*	Janitorial	Franklin		
131	1	*HPLC139*	Janitorial	Franklin		
139	1	*FPLCLabl41*	Janitorial	Franklin		
141	1	*FPLCLabl41*	Installdoorand hardware	Pacifc Door	yes -	Hardware - needs lock GRE
143	1	*Analytics Equipment room 140*	Paint touch up	Proforma nee		
144	1	*Analytics Equipment room 140*	Door hardware	Pacifc Door	yes -	Needs lock GRE
145	1	*Analytics Equipment room 140*	Janitorial	Franklin		
150	1	*Analytics Lab 141*	Janitorial	Franklin		
158	1	*Ferm Wet Lab 137*	Janitorial	Franklin		
168	1	*Ferm & DSP Equipment room 143*	Janitorial	Franklin		
171	1	*DSP*	Complete all MEP installs	~~Western Allied/Mclure~~/Bellanti	yes-	sink stainer—Bellanti 12/16
173	1	*DSP*	Janitorial	Franklin		
178	1	*DSP Lab*	Janitorial	Franklin		
183	1	*Ferm Equipment room 028*	Janitorial	Franklin		
188	1	*Ferm Tank Lab 136*	Janitorial	Franklin		
191	1	*Stairwell#2*	NIC	NA		

Item	Floor	Location	Action Required	Responsible	Complete	Notes
194	1	*Future Pilot Plant 135*	Janitorial	Franklin		
209	1	*Trash Room 122*	Janitorial	Franklin		
217	2	Multi-Purpose room 203	Open box above door: to blank	JCI		In progress
228	2	*Break room 205*	Stain column/door jamb	~~Proformance~~ Rossi		
236	2	*Kitchen*	Trim sink/ disposal	Bellanti		Disposal after inspection final
285	2	*IT room 219*	Janitorial	Franklin		
288	2	*Open Staging*	Base	East Bay Floor	yes-	Needs paint
291	2	*Engineering 210 and hallway to roof*	Paint touch up	Proformance		
306	2	*Equipment room 211*	Paint touch up at duct work	Proforma nee	X	
312	2	*Equipment room 211*	~~Emergency signage above door~~	~~JP Digital~~		
314	2	*Incubation room 212*	Janitorial	Franklin		
316	2	*Incubation room 212*	Paint touch up - steel beam	Proformance		
318	2	*Incubation room 212*	~~Exit signage above door~~	~~JP Digital~~		
319	2	*Incubation room 212*	Open Penetration at wall (East elevation)	Giampolini	yes-	Needs paint
323	2	*Incubation room 212*	Damage at demising wall	Core		Core?
324	2	*Incubation room 212*	Paint touch up at trusses where seismic wires were removed by landlord	(Proformance	x	
330	2	*BSC Lab 213*	Paint sprinkler	| Proforma nee		
	3	*BSC-Lab-213*	~~Exit sign~~			
341	2	*GELS Lab 214*	Paint touch up	| Proforma nee		
357	2	*Future Robotics Area 217*	Paint touch up at walls and celling	|Proformance		
359	2	*Future Robotics Area 217*	Missing bolts at truss system	Proformance		

SUBLEASE

BASIC SUBLEASE INFORMATION

Effective Date:	November 11, 2022
Sublandlord:	Zymergen Inc., a Delaware corporation
Sublandlord's Address For Notice:	Zymergen Inc. 5300 Chiron Way Emeryville, CA 94608 Attn: Chief Financial Officer
With a Copy To:	Zymergen Inc. 5300 Chiron Way Emeryville, CA 94608 Attn: Chief Legal Officer
Sublandlord's Address For Payment of Rent:	ACH / EFT Payments: Bank Name: Silicon Valley Bank Address: 3003 Tasman Drive, Santa Clara, CA 95054 Account Name: Zymergen Inc. Account Number: 3300931746 SWIFT: SVBKUS6S ABA: 121140399
Subtenant:	Metagenomi, Inc., a Delaware corporation
Subtenant's Address For Notice and Tenant's Representative:	1545 Park Avenue Emeryville, CA 94608 Attn: VP of Legal Telephone: Email: Fax: _____
Project:	Emeryville Station West
Master Landlord:	EmeryStation West, LLC, a California limited liability company
Building:	The building within the Project with a common address of 5959 Horton Street, Emeryville, California 94608

Building Address:	
Street:	5959 Horton Street
City and State:	Emeryville, California 94608
Master Tenant:	Dynavax Technologies Corporation, a Delaware corporation
Subleased Premises:	Approximately seventy-five thousand six hundred sixty-two (75,662) rentable square feet located within the Building, comprising the entirety of the 6th and 7th floors of the Building, as generally shown in **Exhibit A**
Subleased Premises Address:	
Street:	5959 Horton Street
City and State:	Emeryville, California 94608 6th and 7th Floor
Commencement Date:	The later to occur of: (a) January 1, 2023, and (b) the date that the Sublease Contingency is satisfied, subject to Section 2 below.
Expiration Date:	March 31, 2031
Sublease Term:	A period of approximately ninety-nine (99) months beginning on the Commencement Date and ending on the Expiration Date.

Base Rent:	From:	To:	Base Rent (per month)
	Commencement Date	Day Prior to 1st Anniversary of Commencement Date	$238,335.30
	1st Anniversary of Commencement Date	Day Prior to 19 Month Anniversary of Commencement Date	$246,677.04
	19 Month Anniversary of Commencement Date	Day Prior to 2nd Anniversary of Commencement Date	$493,354.07
	2nd Anniversary of Commencement Date	Day Prior to 3rd Anniversary of Commencement Date	$510,621.46
	3rd Anniversary of Commencement Date	Day Prior to 4th Anniversary of Commencement Date	$528,493.21
	4th Anniversary of Commencement Date	Day Prior to 5th Anniversary of Commencement Date	$546,990.47
	5th Anniversary of Commencement Date	Day Prior to 6th Anniversary of Commencement Date	$566,135.14
	6th Anniversary of Commencement Date	Day Prior to 7th Anniversary of Commencement Date	$585,949.87
	7th Anniversary of Commencement Date	Day Prior to 8th Anniversary of Commencement Date	$606,458.12
	8th Anniversary of Commencement Date	Expiration Date	$627,684.15
Base Rent Abatement:	One half (50%) of the Base Rent for the first full eighteen (18) months following the Commencement Date shall be abated as reflected in the above table.		
Subtenant's Share:	Building: 28.94%		

Letter of Credit:	One Million Nine Hundred Seventy-Three Thousand Four Hundred Sixteen and 28/100 Dollars ($1,973,416.28).
Sublandlord's Broker:	Bill Benton, Newmark
Subtenant's Broker:	Timothy Mason of Kidder Mathews and Eric Bluestein of Newmark
Permitted Use:	Office, research and development and laboratory use, in each case, to the extent permitted and subject to Section 5 below.

EXHIBITS

A. Outline of Subleased Premises
B. Master Lease (Zymergen Sublease and Original Master Lease)
C. Sublease Commencement Memorandum
D. Zymergen FF&E
E. Environmental Questionnaire
F. Removable Dynavax FF&E
G. Form of Letter of Credit

RECITALS

WHEREAS, Master Landlord, as landlord, and Master Tenant, as tenant, are parties to that certain Office/Laboratory Lease dated as of September 17, 2018 (the "**Original Master Lease**"), pursuant to which Master Landlord leases to Master Tenant the Subleased Premises. A copy of the Original Master Lease is attached to this Sublease as **Exhibit B**, attached as Exhibit E to the Zymergen Sublease, as defined below.

WHEREAS, Master Tenant, as sublandlord, and Sublandlord, as subtenant, are parties to that certain Sublease dated as of July 12, 2019 (the "**Zymergen Sublease**"), pursuant to which Master Tenant subleases to Sublandlord the Subleased Premises. A copy of the Zymergen Sublease is attached to this Sublease as **Exhibit B**. The Zymergen Sublease, collectively with the Original Master Lease, the "**Master Lease**".

WHEREAS, the parties hereto desire that Sublandlord sublet to Subtenant, and Subtenant sublet from Sublandlord the Subleased Premises on all of the terms and conditions of this Sublease. Capitalized terms used herein shall have the meanings given such terms in the Master Lease, unless otherwise defined herein or within the Basic Sublease Information.

AGREEMENT

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. **Sublease**. Sublandlord does hereby sublet to Subtenant and Subtenant does hereby sublet from Sublandlord the Subleased Premises, subject to the terms, provisions, and conditions of this Sublease. Subtenant hereby acknowledges the rentable square footage of the Subleased Premises set forth above in the Basic Sublease Information, and Subtenant accepts and agrees that, for all purposes in this Sublease, such amount is not approximate and agrees to be bound by such figure. Notwithstanding the foregoing, in the event the Master Lease provides the right to Master Landlord to remeasure and/or otherwise modify the rentable square footage of the Subleased Premises, the parties agree that the rentable square footage of the Subleased Premises may be modified to reflect such adjustment.

2. **Sublease Contingency; Sublease Term**.

(a) **Sublease Contingency**. Sublandlord and Subtenant expressly acknowledge and agree that this Sublease is subject to the following contingency (the "**Sublease Contingency**"): Master Landlord's and Master Tenant's prior written consents to this Sublease, in forms provided by Master Landlord and Master Tenant and reasonably acceptable to Sublandlord and Subtenant (collectively, the "**Master Landlord's Consent**"). Subtenant agrees to cooperate in all reasonable respects in connection with obtaining the Master Landlord's Consent. If Sublandlord, despite the parties' good faith efforts, fails to obtain the Master Landlord's Consent within forty-five (45) days after the Effective Date, then either Sublandlord or Subtenant may terminate this Sublease by giving written notice thereof to the other at any time prior to receipt of the Master Landlord's Consent. If either party terminates this Sublease pursuant to the immediately preceding sentence, then notwithstanding anything to the contrary set forth herein, this Sublease shall be null and void, of no force or effect, and Sublandlord shall within thirty (30) days after notice of termination is

given, return to Subtenant the Prepayment (defined in Section 4 below), and/or Letter of Credit (defined in Section 19 below) to the extent actually delivered by Subtenant to Sublandlord. The return of such sums paid by Subtenant shall be Subtenant's sole and exclusive remedy in the event of a termination pursuant to this Section 2(a). Furthermore, neither party shall have any liability to the other for any termination or cancellation of this Sublease if Master Landlord's Consent is not obtained.

(b) **Sublease Term**. The Sublease Term shall commence on the Commencement Date and shall continue in full force and effect for the period of time specified as the Sublease Term in the Basic Sublease Information; provided, however, that in no event shall the Sublease Term extend beyond the term of the Master Lease. Sublandlord and Subtenant shall complete and execute a "**Sublease Commencement Memorandum**" substantially in the form attached hereto as **Exhibit C**, confirming, among other things, the Commencement Date for the Sublease. Failure to execute and deliver such Sublease Commencement Memorandum, however, shall not affect the Commencement Date or Subtenant's liability hereunder. Subtenant shall have no right whatsoever pursuant to this Sublease to extend the Sublease Term for any portion of the Subleased Premises, and Subtenant acknowledges and agrees that this Sublease does not incorporate by reference or include any right of Sublandlord in the Master Lease to extend the term of the Master Lease.

(c) **Early Access**. Following forty-eight (48) hours' notice to Sublandlord (via email to), Sublandlord shall permit Subtenant and its agents to enter the portions of the Premises not designated as "Laboratory" on Exhibit A ("**Office Premises**") beginning on December 12, 2022 ("**Early Access Period**") for the purpose of touring working groups, space planning, delivery and storage of equipment/instruments, and related purposes; provided, however, that (i) in no event shall such early access, regardless of when provided, extend or otherwise affect the Commencement Date; and (ii) Subtenant's access does not unreasonably interfere with any of Sublandlord's activities within the Premises. Subtenant shall be liable for any damages caused by Subtenant's activities at the Premises. The entry shall be deemed to be under all of the provisions of this Sublease except as expressly set forth in this subsection 2(c). During the Early Access Period, Tenant shall have no obligation to pay Rent. The parties acknowledge that the laboratory portion of the Premises are scheduled to be decommissioned on or about December 31, 2022. To the extent such decommissioning occurs prior to such time, Sublandlord shall provide Subtenant early access to the laboratory portion of the Premises under the same conditions as the Office Premises.

3. **Delivery and Condition**.

(a) **As-Is**. Subtenant shall sublet the Subleased Premises in its "AS IS, WHERE IS, WITH ALL FAULTS" condition; subject to any express representations and warranties herein, and provided, however, the Subleased Premises shall be in broom clean condition with Sublandlord's furniture, fixtures and equipment ("**Zymergen FF&E**") remaining. Such Zymergen FF&E is generally described on **Exhibit D**, attached hereto and incorporated by reference, which the parties acknowledge is not an itemized or absolute description and will be used by the parties only as a guide. Any such Zymergen FF&E shall be sold to Subtenant by Sublandlord in its "AS IS, WHERE IS, WITH ALL FAULTS" condition upon the Commencement Date for a purchase price of $1.00, pursuant to a bill of sale to be signed by both parties. Prior to the Commencement Date, all laboratories and associated equipment of Sublandlord shall be decommissioned with an

associated Exit Survey (as defined in Section 17(b)) provided to Subtenant. Upon the expiration of the Sublease, Subtenant shall have the right but not the obligation to purchase the additional furniture, fixtures and equipment generally described on **Exhibit A**, which the parties acknowledge is not an itemized or absolute description and will be used by the parties only as a guide, but specifically including nine biosafety cabinets and two lab freezers located on the 6th Floor Premises and not included as part of the Zymergen FF&E (the "**Dynavax FF&E**") for the same value that Sublandlord is obligated to purchase such Dynavax FF&E from Master Tenant under the Zymergen Sublease. Subtenant acknowledges that except as expressly set forth in this Sublease (i) Sublandlord has made no representations of any kind in favor of Subtenant, including, without limitation, in connection with improvements or physical conditions on, or bearing on, the use of the Zymergen FF&E, the Dynavax FF&E, the Subleased Premises, the Building, and/or the Project, and Subtenant waives any implied warranty with respect to such matters and otherwise; and (ii) Sublandlord shall have no obligation to perform any improvements, alterations, or other work to the Subleased Premises, or provide Subtenant with any improvement allowance with respect to the Subleased Premises. By taking possession of the Subleased Premises, Subtenant accepts the Subleased Premises in the condition provided for in this Section and waives all claims of defect in or relating to the Subleased Premises.

(b) **Delivery**. Notwithstanding anything to the contrary contained in this Sublease or otherwise, Sublandlord shall have no obligation to deliver possession of the Subleased Premises to Subtenant unless and until (i) the Sublease Contingency has been met; (ii) the Commencement Date has occurred; and (iii) Subtenant has delivered all of the following to Sublandlord as of the Effective Date: (w) the Prepayment; (x) the Insurance Certificate (defined in Section 12 below); and (y) the Letter of Credit. Subtenant agrees that in the event that Sublandlord fails to deliver possession of the Subleased Premises on the anticipated Commencement Date for any reason, it will not be a default and Sublandlord shall not be liable for any damage resulting therefrom. If Sublandlord permits Subtenant, or any agent, employee or contractor of Subtenant, to enter, use or occupy the Subleased Premises prior to the Commencement Date, such entry, use or occupancy shall be subject to all the provisions of this Sublease, including, without limitation, Subtenant's compliance with the insurance requirements of Section 12 below.

4. **Rent**.

(a) **Terms of Payment**. Subtenant shall pay to Sublandlord, at Sublandlord's Address for Payment of Rent designated in the Basic Sublease Information, or as otherwise directed by Sublandlord, Base Rent, and Additional Rent, without notice, demand, offset or deduction, in advance, on the first day of each calendar month, except as otherwise expressly set forth in this Sublease. All payments required to be paid by Subtenant to Sublandlord shall be made in federal funds by electronic fund transfer (EFT) or Automated Clearing House (ACH) (or to such other party or at such location as Sublandlord may otherwise from time to time specify in writing) before 11:00 am. Pacific Time. If the Sublease Term commences (or ends) on a date other than the first (or last) day of a month, Base Rent shall be prorated on the basis of a thirty (30) day month. Subtenant shall have no right at any time to abate, reduce, or set-off any rent due hereunder except as may be expressly provided in this Sublease.

(b) **Additional Rent**. All sums due from Subtenant to Sublandlord or to any third party under the terms of this Sublease (other than Base Rent and the Letter of Credit) shall be additional rent ("**Additional Rent**"). Additional Rent shall include, without limitation, (i) Subtenant's Share of all amounts other than base rent payable by Sublandlord to either Master Tenant or Master Landlord, as applicable, under the Master Lease with respect to the Subleased Premises, including without limitation amounts payable as Rent Adjustment, as defined in the Master Lease; (ii) taxes on personal property, equipment and fixtures located in or about the Subleased Premises; (iii) amounts recoverable due to a failure of performance by Subtenant under this Sublease; and (iv) any other costs or expenses due from Sublessee to Sublessor under this Sublease. "**Subtenant's Share**" shall be the percentage set forth in the Basic Sublease Information as Subtenant's Share of the Project and Subtenant's Share of the Building, as applicable. However, Subtenant's Share may be reasonably adjusted by Sublandlord in the future for changes in the physical size of the Project made by Sublandlord and/or Master Landlord. Sublandlord may equitably increase Subtenant's Share for any item of expense or cost reimbursable by Subtenant that relates to an item of maintenance, repair, replacement, or service that benefits only the Subleased Premises. All Additional Rent that is payable to Sublandlord shall be paid at the time, place, and manner as Base Rent pursuant to Section 4(a) above, unless this Sublease expressly provides otherwise. Sublandlord will have the same remedies for a default in the payment of any Additional Rent as for a default in the payment of Base Rent. Together, Base Rent, Additional Rent and any other sums due hereunder from Subtenant are sometimes referred to in this Sublease as "**Rent**".

(c) **Rent Due Upon Execution**. On or before the Effective Date, Subtenant shall pay to Sublandlord in cash, the sum of Four Hundred Thirty Eight Thousand Nine Hundred Thirteen and 07/100 Dollars ($438,913.07) (the "**Prepayment**"), which shall be applied as a credit against the first installment of Base Rent and Subtenant's Share of Rent Adjustment.

(d) **Late Charge; Interest**. Subject to other provisions of this Sublease, if Subtenant fails to pay any Rent within two (2) business days after notice of late payment (with notice to be given by noon on such first business day), Subtenant shall pay to Sublandlord on demand a late charge equal to ten percent (10%) of such delinquent sum. In addition to such late charges, if Sublandlord is charged interest by Master Tenant in accordance with Section 7.2 of the Zymergen Sublease, then Subtenant shall be responsible for reimbursing Sublandlord for such amount. The provision for such late charge shall be in addition to all of Sublandlord's other rights and remedies hereunder or at law and shall not be construed as a penalty. No endorsement or statement on a check or letter accompanying a check or payment shall be considered an accord and satisfaction of past due Rent. Subtenant's covenant to pay Rent is independent of every other covenant in this Sublease.

5. **Use; Compliance with Laws; Hazardous Materials**.

(a) The Subleased Premises shall be used for the Permitted Use to the extent permitted by the Master Lease, in accordance with this Sublease, and for no other purpose. Subtenant shall use the Subleased Premises in compliance with all statutes, codes, ordinances, orders, rules and regulations of any municipal or governmental entity, including, without limitation, all applicable federal, state and local laws or regulations governing protection of, damage to the environment, or the treatment, storage or disposal of hazardous materials, and any covenants, conditions and restrictions encumbering the Subleased Premises, the Building and/or the Project (collectively referred to as "**Laws**"). Subtenant shall be responsible for obtaining any permit, business license,

or other permits or licenses required by any governmental agency permitting Subtenant's use or occupancy of the Subleased Premises. Sublandlord represents and warrants to Subtenant that as of the Commencement Date, to the best of its knowledge, the Premises are in compliance with all local and state codes including the Americans with Disabilities Act of 1990, as amended. For purposes of this Sublease, Sublandlord's "knowledge" means actual knowledge (as opposed to imputed, inquiry or constructive knowledge) of Enakshi Singh, without any duty to investigate or inquire. Sublandlord makes no warranty or representation as to whether or not the Subleased Premises comply with Law and, notwithstanding anything to the contrary contained herein, Sublandlord shall have no obligation to bring the Subleased Premises into compliance with Law, nor any such obligation with respect to the Building or the Project. In the event that Subtenant's use of the Subleased Premises requires modifications or additions to the Subleased Premises, the Building, or the Project in order to be in compliance with Law, Subtenant agrees to make any such necessary modifications and/or additions at its sole cost and expense and in accordance with the terms of Section 8 herein.

(b) Subtenant shall not use, store, transport or dispose of any Hazardous Materials (as defined in the Master Lease) in, under or about the Subleased Premises, Building or the Project, except that Subtenant may keep, store and use in the Subleased Premises those Hazardous Materials, and their respective quantities, specifically listed on the "**Environmental Questionnaire**" attached to this Sublease as **Exhibit E**, in each case, to the extent approved in writing by Sublandlord and (if applicable) Master Landlord, and as otherwise permitted pursuant to the terms and conditions of Section 7.1(g) of the Original Master Lease incorporated herein. The Environmental Questionnaire may be reasonably updated by written notice by Subtenant to Sublandlord from time to time. Subtenant shall update such Environmental Questionnaire upon reasonable notice from Sublandlord. Any such updates shall be subject to the review and approval of Sublandlord and (if applicable) Master Landlord. Subtenant hereby represents and warrants to Sublandlord that (i) neither Subtenant nor any of its legal predecessors has been required by any prior landlord, sublandlord, lender or governmental authority at any time to take remedial action in connection with Hazardous Materials contaminating a property which contamination was permitted by Subtenant or such predecessor, or resulted from Subtenant's or such predecessor's action or use of the property in question; and (ii) Subtenant is not subject to any enforcement order issued by any governmental authority in connection with the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials (including, without limitation, any order related to the failure to make a required reporting to any governmental authority). If Sublandlord determines that this representation and warranty was not true as of the date of this Sublease, Sublandlord shall have the right to terminate this Sublease in Sublandlords' sole and absolute discretion.

6. **Utilities and Services**.

(a) Subtenant shall be solely responsible for and shall pay when due all (i) water, sewer, gas, electricity, other utilities and utility-type services used on or provided to the Subleased Premises, (ii) environmental health and safety services and hazardous waste management furnished to the Subleased Premises, and (iii) information technology services and support, administrative support, janitorial services, business services, office supplies, food and beverage, and other similar items and services with respect to the Subleased Premises. Subtenant shall contract directly for such services. Sublandlord shall not be liable to Subtenant for interruption in

or curtailment of any such utility or service, nor shall any such interruption or curtailment constitute constructive eviction or grounds for rental abatement. In the event the Subleased Premises is not separately metered for a utility service, Subtenant shall have the option, subject to Sublandlord's and Master Landlord's prior written consent and the terms of this Sublease, to cause the Subleased Premises to be separately metered at Subtenant's sole cost and expense. If Subtenant does not elect to cause the Subleased Premises to be separately metered, Subtenant shall pay, upon demand, a reasonable proration of utilities, as determined by Sublandlord. Subtenant hereby waives the provisions of any applicable existing or future Laws permitting the termination of this Sublease due to an interruption, failure or inability to provide any services or utilities (including, without limitation, the provisions of California Civil Code Section 1932(1)).

(b) To allow for compliance with building performance benchmarking and disclosure laws and regulations (including, but not limited to, compliance with California Public Resources Code §25402.10), Subtenant, promptly upon request, shall deliver to Sublandlord (or, at Sublandlord's option, execute and deliver to Sublandlord an instrument enabling Sublandlord to obtain from such provider) any data about Subtenant's utility consumption. Further, Subtenant authorizes Sublandlord and Master Landlord to disclose such information and data regarding the Subleased Premises as may be requested or required from time to time to comply with Laws and/or energy regulations.

7. **Maintenance and Repairs**. Subtenant acknowledges and agrees that Master Landlord shall be responsible for the maintenance and repair obligations of the "Landlord" under the Master Lease. Subtenant shall look solely to Master Landlord for performance thereof. Subtenant hereby recognizes and agrees that all acknowledgements, reservations of rights, limitations on and waivers of liability, and rights to notice in favor of "Landlord" are incorporated into this Sublease in favor of Master Landlord and Sublandlord, as if the same were restated in this Sublease by Subtenant. In no event shall Sublandlord be obligated to undertake any maintenance, repair or replacement obligations that are otherwise the responsibility of Master Landlord or Subtenant, whether hereunder or under the Master Lease. Notwithstanding anything to the contrary contained herein, if any maintenance, repairs, or replacements are required to be made to the Subleased Premises, the Master Premises, the Building, or the Project due to the acts, omissions or negligence of Subtenant or any Subtenant Party (defined in Section 11 below), then such maintenance, repairs, or replacements shall be at Subtenant's sole cost and expense; provided, further, Subtenant shall be responsible for keeping and maintaining the Subleased Premises in good condition at its sole cost and expense except as explicitly set forth in the Master Lease or herein.

8. **Alterations**.

(a) Any alterations, additions or improvements to the Subleased Premises by or for Subtenant (collectively referred to as "**Alterations**") shall require the prior written consent of Sublandlord, Master Tenant and Master Landlord. Alterations shall be subject to and made in accordance with Section 19 of the Zymergen Sublease, which is incorporated herein by this reference (provided, however, that all references therein to "Subtenant" and "Subleased Premises" shall mean "Subtenant" and the "Subleased Premises", respectively, and all references therein to "Master Landlord" shall mean "Sublandlord", "Master Tenant" and "Master Landlord"). Upon the expiration or earlier termination of this Sublease, Subtenant shall remove any or all Alterations made or installed by, or on behalf of, Subtenant and restore the Subleased Premises to the condition

required pursuant to Section 17 below; provided, however, (a) rights in favor of Master Landlord or Master Tenant to retain, preserve, and/or leave in place all or any portion of such Alterations are incorporated into this Sublease in favor of Master Landlord, Master Tenant and Sublandlord, as if the same were restated in this Sublease by Subtenant; and (b) in the event of the exercise of such right, such items shall be and become the property of (as applicable) Sublandlord, Master Tenant or Master Landlord upon the expiration or earlier termination of this Sublease. Subtenant shall be solely responsible for the planning, permitting, construction and completion of any Alterations at Subtenant's sole cost and expense. Subtenant shall make all payments for Alterations in a timely manner so as not to permit any mechanic's or other liens to be placed upon the Subleased Premises in connection with any Alterations. Subtenant shall fully discharge any such lien within fifteen (15) days after the date of filing, and if Subtenant fails to do so, Sublandlord may take such action as may be necessary to remove such lien and Subtenant shall promptly pay Sublandlord such amounts expended by Sublandlord in connection therewith. Subtenant shall not damage or deface the furnishings, walls, floors, ceilings or other portions of the Subleased Premises. Any damage to the Subleased Premises, the Building and/or the Project caused by Subtenant or a Subtenant Party shall be promptly repaired by Subtenant, to Sublandlord's and (if applicable) to Master Landlord's and Master Tenant's satisfaction, all at Subtenant's sole cost and expense. Any provision which permits Master Landlord and/or Master Tenant to recover costs incurred in connection with reviewing and coordination of Alterations shall be construed as requiring Subtenant to pay such costs of Master Landlord, Master Tenant and Sublandlord.

(b) It is hereby acknowledged and agreed that it is Subtenant's intention to convert all or a portion of the 7th floor of the Premises to laboratory space (the "**Laboratory Conversion Work**"). Subtenant shall have the right, but not the obligation, to undertake the Laboratory Conversion Work at its own cost and expense. Provided Subtenant complies with Article 9 of the Master Lease, Sublandlord consents to Subtenant performing the Laboratory Conversion Work. Notwithstanding anything in this Sublease or Master Lease to the contrary, the Security Deposit and Rent Adjustment shall not be increased due to any Laboratory Conversion Work, nor shall Subtenant nor Sublandlord have any obligation to remove the Laboratory Conversion Work or restore the Sublease Premises to its condition prior to the Laboratory Conversion Work at the end of the Sublease Term. This paragraph and Sublandlord's consent hereto, shall be subject to Sublandlord's and Subtenant's receipt of consent to the same from Master Landlord and Master Tenant.

(c) In connection with the Laboratory Conversion Work, certain of the Dynavax FF&E located on the 7th floor Premises and highlighted on **Exhibit F** ("**Removable Dynavax FF&E**") may be required to be removed. With written approval from Master Tenant and Sublandlord, Subtenant may remove and dispose of the Removable Dynavax FF&E; provided, however, in the event such consent of disposal is not obtained within 30 days of request, then upon at least 60 days' notice ("**Removal Notice**") from Subtenant to Sublandlord, subject to the terms of the Zymergen Sublease, Sublandlord shall coordinate with Master Tenant to have the Removable Dynavax FF&E designated in the Removal Notice removed from the Premises and stored during the Sublease Term; provided, further, that only one (1) Removal Notice may be given to Sublandlord during such Sublease Term.

9. **Entry by Sublandlord or Master Landlord**. Sublandlord, Master Tenant or Master Landlord may enter the Subleased Premises at any time during the Sublease Term and/or undertake the following all without abatement of Rent or liability to Sublandlord, Master Tenant and/or Master Landlord: inspect the Subleased Premises; to make and operate repairs, alterations, improvements, or additions to the Subleased Premises; show the Subleased Premises to prospective purchasers and investors and existing and prospective lenders; and (if applicable), during the last nine (9) months of the Subleased Term, place signs for the rental of, and show the Subleased Premises to prospective tenants and/or subtenants. Subtenant acknowledges that any prior notice of entry into the Subleased Premises may be given orally; however, no notice shall be required in case of an emergency.

10. **Assignment and Subletting**. Subtenant shall not assign, sublease, or transfer any interest in this Sublease or allow any third party to use any portion of the Subleased Premises (collectively or individually, a "**Transfer**"), without the prior written consent of Sublandlord, Master Tenant and Master Landlord. Each Transfer (including a proposed Transfer) shall be subject to Section 16 of the Zymergen Sublease. Any Transfer without the prior written consent of Sublandlord, Master Tenant and Master Landlord shall be an incurable default by Subtenant and, in addition to any other rights and remedies, shall entitle Sublandlord to terminate this Sublease immediately. Subtenant shall not be released from any of its obligations under this Sublease or those provisions of Master Lease incorporated herein, and shall continue to be liable as a principal, not as a guarantor or surety, and to the same extent as though no Transfer had been made. Subject to all of the foregoing, no permitted Transfer shall be effective until there has been delivered to Sublandlord a counterpart of the Transfer instrument in which the transferee agrees to be and remain jointly and severally liable with Subtenant for the payment of Rent pertaining to the Subleased Premises and for the performance of all of the terms and provisions of this Sublease and those provisions of Master Lease incorporated herein. Notwithstanding anything to the contrary herein or otherwise, Subtenant shall not collaterally assign, mortgage, pledge, hypothecate or otherwise encumber the Subleased Premises, this Sublease, the Master Lease, or any of Subtenant's rights hereunder without the prior written consent of Sublandlord, Master Tenant and Master Landlord, which consent Sublandlord, Master Tenant and/or Master Landlord may withhold in its/their sole discretion. Subtenant hereby waives (for itself and all persons claiming under Subtenant) the provisions of California Civil Code Section 1995.310.

11. **Indemnity and Waiver of Claims**. Subtenant shall indemnify, defend (by counsel acceptable to Sublandlord) and hold Sublandlord and all of Sublandlord's affiliates, and each of their respective, owners, investors, partners, principals, members, trustees, officers, directors, shareholders, agents, contractors, employees and lenders ("**Sublandlord Parties**") harmless from and against all liabilities, damages, claims, and expenses, including, without limitation, reasonable attorneys' fees (if and to the extent permitted by Law), which may be imposed upon, incurred by or asserted against Sublandlord or any of the Sublandlord Parties, arising directly or indirectly out of (a) the use or occupancy of the Subleased Premises, the conduct of Subtenant's business or any activity, work or things done, permitted or suffered by Subtenant or any of Subtenant's affiliates, or their respective employees, agents, customers, visitors, invitees, licensees, contractors, assignees (individually, a "**Subtenant Party**", and collectively, the "**Subtenant Parties**"), or (b) a breach or default in the performance of any obligation on Subtenant's part to be performed hereunder, except to the extent caused by Sublandlord's gross negligence or willful misconduct. Subtenant hereby waives all claims against Sublandlord and the Sublandlord Parties for (i) any injury or damage to person or property (or resulting from the loss of use thereof) in or about the Subleased Premises or the Building by or from any cause whatsoever (including, without limiting

the foregoing, rain or water leakage of any character from the roof, windows, walls, basement, pipes, plumbing works or appliances, the Project, the Building and/or the Subleased Premises not being in good condition or repair, gas, fire, oil, or electricity), except to the extent caused by Sublandlord's gross negligence or willful misconduct, and (ii) any failure to prevent or control any criminal or otherwise wrongful conduct by any third party or to apprehend any third party who has engaged in such conduct. Notwithstanding any provision in this Sublease to the contrary, neither Sublandlord nor any Sublandlord Parties, nor Master Tenant or Master Landlord nor any of their owners, partners, principals, members, trustees, officers, directors, shareholders, agents, employees and lenders, shall be liable for (and Subtenant hereby waives any claims for) any injury or damage to, or interference with, Subtenant's business, including consequential damage, loss of profits, loss of rents or other revenues, loss of business opportunity, loss of goodwill or loss of use, or for any form of punitive damage. Subtenant and Subtenant parties shall only be liable to Sublandlord, Sublandlord Parties, Master Landlord and Master Tenant for any consequential damage, compensation or claims for inconvenience or loss of business, rents or profits as a result of any injury or damage (a) (i) caused directly by an act or omission of Subtenant or any of Subtenant's invitees, agents or employees, and (ii) Master Landlord or Master Tenant has brought an action against Sublandlord for same; or (b) to the extent resulting from a holdover (which is governed by Section 18 of this Sublease).

12. **Insurance**. The provisions of Section 27 of the Zymergen Sublease and Article 16 of the Original Master Lease pertaining to insurance shall be incorporated into this Sublease, subject to the following terms. For purposes of this Sublease, (i) the term "Tenant" in Article 16 of the Original Master Lease shall be deemed to mean Subtenant; (ii) the term "Landlord" in Section 16.3 of the Original Master Lease shall be deemed to mean Master Landlord; (iii) the term "Landlord" in Sections 16.1, 16.2, 16.4 and 16.5 of the Original Master Lease shall be deemed to mean Master Landlord, Master Tenant and Sublandlord (it being understood that Sublandlord and Sublandlord Parties shall be named, as applicable, as additional insureds and loss payees, that Sublandlord shall be entitled to all applicable notices related to such insurance and to evidence of all such insurance, and that the release and waiver of subrogation in Section 16.4 of the Original Master Lease shall also apply as between Sublandlord and Subtenant; and (iv) the term "Premises" shall mean the "Subleased Premises." The insurance certificate to be provided by Subtenant shall be subject to approval by Sublandlord and Master Landlord (the "**Insurance Certificate**").

13. **Damage or Destruction and Condemnation**. The provisions of Section 19 of the Zymergen Sublease and Article 13 of the Original Master Lease pertaining to damage or destruction and condemnation, respectively, shall be incorporated into this Sublease, subject to the following terms. For purposes of this Sublease, the term "Tenant" in Article 13 of the Master Lease shall be deemed to mean Subtenant and the term "Landlord" therein shall be deemed to mean Master Landlord and the term "Premises" shall mean the "Subleased Premises", except that (a) in no event shall Sublandlord have any obligation to Subtenant to restore the Subleased Premises if damaged, destroyed or condemned as described in Article 13 of the Master Lease; and (b) Subtenant shall have no right to (i) terminate this Sublease due to casualty damage to or condemnation of all or any portion of the Subleased Premises unless Sublandlord has such right under the Master Lease, or (ii) any insurance proceeds or condemnation awards received by Sublandlord under the Master Lease, all of which shall be deemed to be the property of Sublandlord. Subtenant hereby (A) waives (I) any and all provisions of applicable Laws that provide alternative rights for the parties in the event of damage or destruction (including, without

limitation, the provisions of California Civil Code Section 1932, Subsection 2, and Section 1933, Subsection 4, and any successor statute or laws of a similar nature), and (II) any rights it may have pursuant to any applicable Laws in the event of a condemnation (including, without limitation, Section 1265.130 of the California Code of Civil Procedure and any successor statutes); and (B) agrees that the provisions of this Section 13 shall govern the parties' rights in the event of any casualty and/or condemnation.

14. **Events of Default**. The occurrence of any of the following shall constitute a material breach of this Sublease and a default by Subtenant ("**Default**"): (i) Subtenant's failure to pay Rent within three (3) days of the date due; provided, however that Sublandlord will give Subtenant notice and an opportunity to cure any failure to pay Rent within three (3) days of any such notice not more than twice in any twelve (12) month period; provided, further, that any such notice shall be in lieu of, and not in addition to, any notice required under California Code of Civil Procedure Section 1161; (ii) all those items of default set forth in the Master Lease where the obligation is incorporated in this Sublease, including, without limitation, the Defaults listed in Section 22 of the Zymergen Sublease and Article 11 of the Original Master Lease, which remain uncured after the cure period provided in the Master Lease; (iii) Subtenant shall attempt or there shall occur any Transfer in contravention of this Sublease or the Master Lease; or (iv) Subtenant's failure to perform any other term, provision or covenant of this Sublease, which failure remains uncured after fifteen (15) days written notice thereof; provided that, subject to Section 16(b) below, if the failure is of a nature that reasonably requires more than fifteen (15) days, to cure, the cure period shall be extended so long as the cure is commenced within such period and diligently prosecuted to completion.

15. **Remedies**. Upon any Default by Subtenant under the terms of this Sublease, beyond any applicable notice and cure period, Sublandlord shall have the remedies set forth in Section 22 of the Zymergen Sublease and Article 11 of the Original Master Lease (which rights are hereby incorporated by reference into the terms of this Sublease) as if Sublandlord were Master Landlord or Master Tenant, as applicable, including, without limitation, the right to terminate this Sublease, in which case Subtenant shall immediately surrender the Subleased Premises to Sublandlord. If Subtenant fails to surrender the Subleased Premises, Sublandlord may, in compliance with applicable Laws and without prejudice to any other right or remedy, enter upon and take possession of the Subleased Premises. In addition to the right to terminate this Sublease and collect damages, Sublandlord shall have the right to pursue any other remedy provided under the Master Lease or that is now or hereafter available at law or in equity. No right or remedy conferred upon or reserved to Sublandlord is intended to be exclusive of any other right or remedy, and each and every right and remedy shall be cumulative and in addition to any other right or remedy given hereunder or now or hereafter existing by agreement, Laws, or in equity.

16. **Sublandlord Representations, Warranties and Covenants; Master Lease**.

(a) Sublandlord represents and warrants the following is true and correct as of the Effective Date and Commencement Date: (i) Sublandlord is the tenant under the Zymergen Sublease and has the capacity to enter into this Sublease with Subtenant subject to the Sublease Contingency, (ii) the Master Lease attached as **Exhibit B**, is a true, correct, and complete copy of the Master Lease, is in full force and effect, and has not been further modified, amended, or supplemented except as expressly set out herein, (iii) Sublandlord has not received any notice, and

has no actual knowledge of any default by Sublandlord under the Master Lease, including without limitation as to any covenants related to Hazardous Materials, (iv) Sublandlord has no actual knowledge, of any default by Master Landlord or Master Tenant under the Master Lease. Sublandlord covenants that it will maintain the Master Lease during the entire Sublease Term, subject, however, to any earlier termination of the Master Lease without the fault of Sublandlord. Sublandlord hereby covenants not to enter into any amendment or other agreement with respect to the Master Lease without the prior written consent of the Subtenant.

(b) Subtenant takes possession of the Subleased Premises, and enters into this Sublease, subject and subordinate to all of the terms, covenants, conditions, and restrictions of the Master Lease, except as otherwise expressly provided for herein. Subtenant's use of the Subleased Premises, the Building, and the Project shall be subject and subordinate to all of the terms, covenants, conditions, and restrictions of the Sublease and the Master Lease, except as otherwise expressly provided for herein. Subtenant shall not, and shall not permit Subtenant Parties to, by act or omission cause a breach of any of the terms, covenants, conditions, and restrictions contained in this Sublease or the Master Lease. Except as specifically set forth herein, with respect to any obligation of Subtenant to be performed under this Sublease, wherever the Master Lease grants to Sublandlord a specified number of days after notice or other time condition to perform its corresponding obligation under the Master Lease (excluding the payment of Rent), Subtenant shall have one-fourth fewer days (rounded to the nearest whole day) to perform the obligation, including without limitation curing any defaults. Any default notice or other notice of any obligations (including any billing or invoice for any Rent or any other expense or charge due under the Master Lease) from Master Landlord or Master Tenant which is received by Subtenant (whether directly or as a result of being forwarded by Sublandlord) shall constitute such notice from Sublandlord to Subtenant under this Sublease without the need for any additional notice from Sublandlord.

(c) It is expressly understood, acknowledged and agreed by Subtenant that all of the other terms, conditions and covenants of this Sublease shall be those stated in the Master Lease except as excluded or modified below in this Section 16(b). Except as otherwise set forth in this Sublease, Subtenant shall be subject to, bound by and comply with all of said Sections of the Master Lease with respect to the Subleased Premises and shall satisfy all applicable terms and conditions of the Master Lease for the benefit of Sublandlord, Master Tenant and Master Landlord, it being understood and agreed (except as otherwise expressly set forth in this Sublease), however, that (i) wherever in the Master Lease the word "Tenant" appears, for the purposes of this Sublease, the word "Subtenant" shall be substituted, wherever the word "Landlord" appears, for the purposes of this Sublease, the word "Sublandlord" shall be substituted, wherever the word "Lease" appears, for purposes of this Sublease, the word "Sublease" shall be substituted, and wherever the word "Premises" appears, for the purposes of this Sublease, the word "Subleased Premises" shall be substituted, and wherever the word "Term" appears, for purposes of this Sublease, the words "Sublease Term" shall be substituted; (ii) Sublandlord shall have no liability to Subtenant with respect to (w) representations and warranties made by Master Landlord or Master Tenant under the Master Lease, (x) any indemnification obligations of Master Landlord or Master Tenant under the Master Lease, (y) obligations or liabilities of Master Landlord or Master Tenant under the Master Lease with respect to compliance with laws, condition of the Subleased Premises or Hazardous Materials, or (z) obligations under the Master Lease to repair, maintain, restore, or insure all or any portion of the Subleased Premises, regardless of whether the incorporation of one or more provisions of the Master Lease might otherwise operate to make Sublandlord liable

therefor; (iii) in any case where "Tenant" is to indemnify, release or waive claims against "Landlord", such indemnity, release or waiver shall be deemed to run from Subtenant to Master Landlord, Master Tenant and Sublandlord; (iv) whenever the provisions of the Master Lease incorporated as provisions of this Sublease require the written consent of Master Landlord, said provisions shall be construed to require the written consent of Master Landlord or Master Tenant and Sublandlord; (v) whenever the provisions of the Master Lease incorporated as provisions of this Sublease require the written consent of Tenant, said provisions shall be construed to require the written consent of Subtenant; and (vi) in any case where Master Landlord or Master Tenant is to indemnify, release or waive claims against "Tenant", such indemnity, release or waiver shall be deemed to run from Master Landlord, Master Tenant and Sublandlord to Subtenant. In the event of any conflict between this Sublease, on the one hand, and the Master Lease, on the other hand, the terms of this Sublease shall control as between Sublandlord and Subtenant. Subtenant hereby acknowledges that it has read and is familiar with all the terms of the Master Lease. In addition to any other provisions contained in this Sublease which specifically state that certain provisions of the Master Lease are not incorporated into this Sublease or are otherwise modified as described in such other provisions, the terms and provisions of the following Sections and portions of the Master Lease are not incorporated into this Sublease or are modified as provided for below: (A) the following provisions of the Master Lease are expressly not incorporated herein by reference: the definition of "Base Rent," "Applicable Monthly Base Rent," "Security Deposit," "Sublease Term," and "Commencement Date," as the same appear in the Zymergen Sublease, are not a part of this Sublease; the definition of "Monthly Base Rent," "Security Deposit," "Lease Term" and "Commencement Date," as the same appear in the Original Master Lease, are not part of this Sublease; Section 3, Section 4, Section 6, Section 8, Section 13.2, the second grammatical sentence of Section 15, Section 20, Section 21, and Section 35 of the Zymergen Sublease are not part of (and not incorporated into) this Sublease; Section 2.1, Section 2.2, Section 2.3, Section 2.6, Section 2.7, Section 2.8, Article 3, Article 5, Article 22 and Section 24(b), all of the Original Master Lease, are not part of (and not incorporated into) this Sublease; the references to "Landlord" in Section 8.1, Section 16.3, Article 14 and Article 15 of the Original Master Lease shall be deemed to mean "Master Landlord," the references to "Master Landlord" in Section 2, Section 23 and Section 26 in the Zymergen Sublease shall be deemed to mean "Master Landlord," "Master Tenant" and "Sublandlord"; and Exhibit B to the Zymergen Sublease and Exhibits B, B-1 and B-2 to the Original Master Lease are not part of (and are not incorporated into) this Sublease.

(d) Sublandlord shall have no liability to Subtenant on account of any failure of Master Landlord or Master Tenant to observe or perform any of the terms, covenants or conditions of the Master Lease required to be observed or performed by Master Landlord or Master Tenant, as applicable. Sublandlord, upon Subtenant's written request, shall use commercially reasonable efforts to cause the Master Landlord and/or Master Tenant, as the case may be, to perform its obligations under the Master Lease (including without limitation by notifying Master Landlord or Master Tenant, as applicable, of Master Landlord's or Master Tenant's failure to perform its obligations under the Master Lease if Master Landlord or Master Tenant, as applicable, fails to perform same within thirty (30) days after Master Landlord or Master Tenant, as applicable, has been requested to do so in writing by Subtenant) and shall use commercially reasonable efforts to cooperate with Subtenant in its efforts to obtain such performance at no cost to Sublandlord. In no event shall Sublandlord be required to initiate any legal proceedings or to incur any expense or liability in connection with such efforts.

(e) If (i) Subtenant shall fail to perform any of its obligations hereunder and such failure shall continue beyond any cure period provided for herein, or (ii) Master Landlord or Master Tenant, as applicable, shall give any notice of failure or default under the Master Lease arising out of any failure by Subtenant to perform any of its obligations hereunder, then, in any such case, Sublandlord shall have the right (but not the obligation) to enter the Subleased Premises and perform or endeavor to perform such obligation, at Subtenant's expense. Subtenant shall, within ten (10) days of Sublandlord's demand, reimburse Sublandlord for all such costs and expenses incurred by Sublandlord in doing so (plus a sum for overhead to Sublandlord equal to five percent (5%) of such costs and expenses) as Rent.

(f) Subtenant shall promptly execute, acknowledge and deliver to Sublandlord, any certificate or other document evidencing the status of the Sublease or subordination of this Sublease to the Master Lease, that Sublandlord, Master Tenant or Master Landlord may reasonably request, in accordance with the Master Lease or this Sublease.

17. **Surrender of Subleased Premises**.

(a) Subtenant shall remove from the Subleased Premises on or before the expiration or earlier termination of this Sublease (i) any Alterations that are required to be removed pursuant to Section 8 of this Sublease, other than the Laboratory Conversion Work, (ii) any other improvements, alterations or fixtures in the Subleased Premises that were performed by or on behalf of Subtenant and that are required to be removed at the expiration of the term of the Master Lease pursuant to the terms therein, and (iii) Subtenant's personal property, including, without limitation, any property that would be considered "Required Removables" pursuant to the terms of the Master Lease. In addition, Subtenant shall quit and surrender the Subleased Premises to Sublandlord on or before the expiration or earlier termination of this Sublease, broom clean, and in at least the same order, condition and repair as on the date received, ordinary wear and tear excepted and in accordance with the terms of the Master Lease. Conditions existing because of Subtenant's failure to perform maintenance, repairs or replacements shall not be deemed "ordinary wear and tear." If Subtenant fails to timely remove any Alterations, improvements or fixtures that are required to be removed, or any of Subtenant's personal property, Sublandlord, at Subtenant's sole cost and expense, shall be entitled (but not obligated) to remove such Alterations, improvements and/or fixtures and/or remove, store or dispose of Subtenant's personal property. Sublandlord shall not be responsible for the value, preservation or safekeeping of Subtenant's personal or other property. On the basis of the foregoing, Subtenant waives and releases its rights under Sections 1980 et. seq. and 1993 et. seq. of the California Civil Code, or any similar Laws now or hereafter in effect.

(b) At least thirty (30) days prior to Subtenant's surrender of possession of any part of the Subleased Premises, Subtenant shall provide Sublandlord with a facility decommissioning and Hazardous Materials closure plan for the Subleased Premises ("**Exit Survey**") prepared by an independent third-party, state-certified professional with appropriate expertise, which Exit Survey must be reasonably acceptable to Sublandlord. The Exit Survey shall comply with the American National Standards Institute's Laboratory Decommissioning guidelines (ANSI/AIHA Z9.11-2008) or any successor standards published by ANSI or any successor organization (or, if ANSI and its successors no longer exist, a similar entity publishing similar standards). In addition, at least ten (10) days prior to Subtenant's surrender of possession of any part of the Subleased Premises,

Subtenant shall (i) provide Sublandlord with written evidence of all appropriate governmental releases obtained by Subtenant in accordance with Laws, including laws pertaining to the surrender of the Subleased Premises, (ii) place laboratory equipment decontamination forms on all decommissioned equipment to assure safe occupancy by future users, and (iii) conduct a site inspection with Sublandlord. In addition, Subtenant agrees to remain responsible after the surrender of the Subleased Premises for the remediation of any recognized environmental conditions, including those set forth in the Exit Survey and comply with any recommendations set forth in the Exit Survey. Subtenant's obligations under this Addendum shall survive the expiration or earlier termination of the Sublease.

(c) On the Expiration Date, Sublandlord shall purchase the FF&E from Master Tenant pursuant to Section 10 of the Zymergen Sublease, and Sublandlord shall sell to Subtenant the FF&E on the same terms and conditions; provided, however, in the event Sublandlord is unable to consummate the contemplated transaction with Master Tenant, Sublandlord shall be released of its obligation to sell the FF&E to Subtenant.

18. **Holding Over**. Subtenant shall have no right to holdover in the Subleased Premises beyond the expiration or earlier termination of this Sublease. If Subtenant does not surrender and vacate the Subleased Premises as and when provided for herein, Subtenant shall be deemed to be holding over as a tenant at sufferance, and the parties agree that the Rent during such holdover period shall be one hundred seventy five percent (175%) of the Rent in effect immediately prior to such holding over. No holding over by Subtenant shall operate to extend the Sublease Term. Notwithstanding the foregoing, and in addition to all other rights and remedies on the part of Sublandlord, if Subtenant fails to surrender the Subleased Premises upon the expiration or earlier termination of this Sublease, in addition to any other liabilities to Sublandlord accruing therefrom, Subtenant shall be liable to Sublandlord for any obligations imposed by Master Tenant or Master Landlord pursuant to the Master Lease (including without limitation, Section 24 of the Zymergen Sublease) as a result of such holding over, and Subtenant shall be responsible for all damages suffered by Sublandlord resulting from or occasioned by such holding over, including, without limitation, consequential damages (notwithstanding any limitations thereon under the Master Lease).

19. **Letter of Credit**. Concurrent with Subtenant's execution of this Sublease, Subtenant shall deliver to Sublandlord, at Subtenant's sole cost and expense, an unconditional, irrevocable, standby letter of credit (the "**Letter of Credit**") with an initial expiration date no earlier than one (1) year after the Effective Date of this Sublease in the amount set forth in the Basic Lease Information (the "**Letter of Credit Amount**"), in the form attached hereto as **Exhibit G** or in other such form as is reasonably acceptable to Sublandlord. The Letter of Credit shall secure the full and faithful performance of each provision of this Sublease to be performed by Subtenant pursuant to the following terms and conditions.

(a) The Letter of Credit shall state on its face that, notwithstanding the stated expiration date, the term of the Letter of Credit shall be automatically renewed for successive, additional one (1) year periods during the Sublease Term through the date that is at least ninety (90) days after the last day of the Sublease Term, unless, at least ninety (90) days prior to any such date of expiration, the issuing bank shall have given written notice to Sublandlord, by certified mail, return receipt requested at the Sublandlord's Address For Notice stated in the Basic Sublease Information or such other address as Sublandlord shall have given to the issuing bank, that the Letter of Credit will not be renewed. The failure of Subtenant to cause the Letter of Credit to be renewed or reissued at least sixty (60) days prior to the expiration thereof shall constitute Default under this Sublease.

(b) The Letter of Credit shall be issued by a financial institution reasonably acceptable to Sublandlord, which financial institution shall be a bank that accepts deposits, maintains accounts, will negotiate letters of credit, and whose deposits are insured by the FDIC. The Letter of Credit must be presentable in Emeryville, California or such other United States location reasonably acceptable to Sublandlord. If the financial institution that issues the Letter of Credit makes a general assignment for the benefit of creditors, or commences any case, proceeding or other action seeking to have an order for relief entered on its behalf as a debtor or to adjudicate it as bankrupt or insolvent, or seeking reorganization, arrangement, adjustment, liquidation, dissolution or composition of it or its debts or seeking appointment of a receiver, trustee, custodian or other similar official for it or for all or of any substantial part of its property, or loses or has its charter revoked, goes into receivership, or is otherwise taken over by any regulatory agency which oversees such issuer, then Subtenant shall, promptly, but in no event later than ten (10) days after the occurrence of such event, deliver a replacement Letter of Credit to Sublandlord in the full Letter of Credit Amount and otherwise in accordance with the requirements set forth in this Section 19, and promptly upon Sublandlord's receipt of the replacement Letter of Credit, Sublandlord shall return to Subtenant the Letter of Credit being replaced.

(c) If Subtenant fails to perform fully and timely all or any of Subtenant's covenants and obligations set forth in this Sublease, including, without limitation, Subtenant's failure to renew the Letter of Credit at least ninety (90) days prior to the expiration thereof, or if Subtenant has filed a voluntary petition under the federal bankruptcy code or an involuntary petition has been filed against Subtenant under the federal bankruptcy code, Sublandlord may, without notice to Subtenant, execute one or more drafts on the Letter of Credit and apply all or any portion of the Letter of Credit toward fulfillment of Subtenant's unperformed covenants and/or obligations, including any Rent payable by Subtenant that is not paid when due; provided, however, that a failure of Subtenant to renew the Letter of Credit in accordance with this Section 19 shall entitle Sublandlord to execute a draft for the entire amount of the Letter of Credit and such proceeds shall be deemed the property of Sublandlord until such time as Subtenant delivers a replacement Letter of Credit to Sublandlord in the full Letter of Credit Amount and otherwise in accordance with the requirements set forth in this Section 19, and promptly upon Sublandlord's receipt of the replacement Letter of Credit, Sublandlord shall apply the amount of proceeds drawn from the issuing bank upon Subtenant's failure to renew the Letter of Credit against the next due installment(s) of Base Rent under this Sublease. Any proceeds drawn shall constitute the property of Sublandlord and need not be segregated from Sublandlord's other assets. If, as a result of any application or use by Sublandlord of all or any part of the Letter of Credit, the amount of the Letter of Credit shall be less than the Letter of Credit Amount, Subtenant shall, within ten (10) days thereafter, provide Sublandlord with additional letter(s) of credit in an amount equal to the deficiency, and any such additional (or replacement) letter of credit shall comply with all of the provisions of this section and if Subtenant fails to comply with the foregoing, notwithstanding anything to the contrary contained in the Sublease, the same shall constitute an immediate Default by Subtenant.

(d) Ninety (90) days after Subtenant vacates the Subleased Premises, upon the expiration or sooner termination of this Sublease, if Subtenant is not then in default, Sublandlord shall return to Subtenant the Letter of Credit (and any unapplied cash balance of the Letter of Credit that had been previously drawn upon); provided that Sublandlord may retain the Letter of Credit (or previously drawn proceeds therefrom) until such time as any Rent (including Additional Rent) due from Subtenant for known defaults in accordance with this Sublease has been determined and paid in full by Subtenant.

(e) In no event or circumstance shall the Letter of Credit or any renewal thereof or any proceeds thereof be deemed to be or treated, or intended to serve as a "security deposit" within the meaning of any applicable law or statute. Subtenant hereby waives the provisions of any Laws which establishes the time frame by which Sublandlord must refund collateral or security for performance of a subtenant's obligations under a sublease. Subtenant agrees and acknowledges that Subtenant has no property interest whatsoever in the Letter of Credit or the proceeds thereof and that, in the event Subtenant becomes a debtor under any chapter of the Federal Bankruptcy Code, neither Subtenant, any trustee, nor Subtenant's bankruptcy estate shall have any right to restrict or limit Sublandlord's claim and/or rights to the Letter of Credit and/or the proceeds thereof by application of Section 502(b)(6) of the federal bankruptcy code or otherwise.

(f) Should the Permitted Use be amended to accommodate a change in the business of Subtenant or to accommodate a sub-subtenant or assignee, Sublandlord shall have the right to increase the Letter of Credit to the extent necessary, in Sublandlord's reasonable judgment, to account for any increased risk to the Subleased Premises or increased wear and tear that the Subleased Premises may suffer as a result thereof. If a change in control of Subtenant occurs during the Sublease and following such change the financial condition of Subtenant is, in Sublandlord's reasonable judgment, materially reduced, Subtenant shall deposit such additional monies with Sublandlord as shall be sufficient to cause the Letter of Credit to be at a commercially reasonable level based on said change in financial condition.

(g) Subtenant acknowledges that Sublandlord has the right to transfer its interests in this Sublease. Subtenant agrees that in the event of any such transfer, Sublandlord shall have the right to transfer, assign and/or endorse the Letter of Credit to Sublandlord's master lessors, or other transferees or assignees. Subtenant shall look solely to such parties for the return of the Letter of Credit in accordance with the terms of this Sublease. Subtenant agrees further that, upon Sublandlord's written request, it shall have the Letter of Credit issued, at Subtenant's sole cost and expense, in favor of Sublandlord's master lessor or other transferee or assignee to be held by any such party in accordance with the terms of this Sublease.

20. **Parking; Signage**.

(a) **Parking**. Subtenant shall have Subtenant's proportionate share of such parking rights as Sublandlord may have in connection with the Subleased Premises, as set forth in the Master Lease. Sublandlord shall have the right to pass through to Subtenant any charges payable to Master Landlord under the Master Lease for such parking rights. Subtenant shall pay as Additional Rent all such amounts at the same time and in the same manner as Subtenant pays Base Rent pursuant to Section 4 above.

(b) **Signage**. Subtenant shall not, without the prior written consent of Sublandlord (which consent may be granted or withheld in its sole and absolute discretion), Master Tenant and Master Landlord, post, project, affix, exhibit or display any signs, notices, window or door lettering, placards, decorations, or advertising media of any type which can be viewed from the exterior of the Subleased Premises. Subtenant shall have the right to display, at Subtenant's sole cost and expense, signs bearing Subtenant's name and/or logo at specific locations within the Subleased Premises, subject to the prior written consent of Sublandlord (which consent shall not be unreasonably withheld, conditioned or delayed). Subtenant shall be entitled to Subtenant's signage rights and proportionate share of any Building standard identification signage allowed to the "Tenant" under the Original Master Lease and "Subtenant" under the Zymergen Sublease, at Subtenant's sole cost and expense, and subject to Laws and Sublandlord's, Master Tenant's and Master Landlord's prior written approval, of the design and location of such signage. Upon the expiration or earlier termination of this Sublease, Subtenant shall be responsible for removing any signage described above, repairing any damage caused by such removal, and restoring the area to its prior condition. Subtenant shall in no event be entitled to any exterior Building signage.

21. **Limitation of Liability**. None of the Sublandlord Parties shall have any personal liability for any obligation of Sublandlord under this Sublease or arising in connection herewith or with the operation, management, leasing, subleasing, repair, renovation, alteration or any other matter relating to the Project, the Building or the Subleased Premises, and Subtenant hereby expressly waives and releases such personal liability on behalf of itself and all persons claiming by, through or under Subtenant. Whenever Sublandlord transfers its interest, Sublandlord shall be automatically released from further performance under this Sublease and from all further liabilities and expenses hereunder subject to assumption by the transferee of Sublandlord's interest of all liabilities and obligations of Sublandlord hereunder from the date of such transfer.

22. **Miscellaneous**.

(a) All demands, approvals, consents or notices shall be in writing and delivered by hand or sent by registered or certified mail with return receipt requested, or sent by overnight or same day courier service at the party's respective Address(es) for Notice set forth above in the Basic Sublease Information. Each notice shall be deemed to have been received or given on the earlier to occur of (i) actual delivery or the date on which delivery is refused, (ii) three (3) business days after notice is deposited in the U.S. mail, one (1) business day after notice is deposited with an overnight or same day courier service in the manner described above or the date on which delivery is refused. Any party may, at any time, change its notice address (other than to a post office box address) by giving the other parties written notice of the new address.

(b) Either party's failure to declare a default immediately upon its occurrence or delay in taking action for a default shall not constitute a waiver of the default, nor shall it constitute an estoppel. If either party institutes a suit against the other for violation of or to enforce any covenant, term or condition of this Sublease, the prevailing party shall be entitled to all of its costs and expenses, including, without limitation, reasonable attorneys' fees.

(c) This Sublease shall be interpreted and enforced in accordance with the Laws of the state in which the Subleased Premises is located.

(d) Subtenant represents and warrants to Sublandlord that it has not dealt with any broker in connection with this Sublease, other than Subtenant's Broker (if any) identified in the Basic Sublease Information. Subtenant agrees to indemnify, defend and hold Sublandlord and Sublandlord Parties party harmless from any commissions due to any broker claiming by, through or under Subtenant. Sublandlord shall pay a commission equal to Two Dollars ($2.00) per rentable square foot of the Subleased Premises for each year of the Sublease Term to Subtenant's Broker. Any partial years shall be prorated. Notwithstanding the foregoing, no such commission shall exceed Eighteen Dollars ($18.00) per rentable square foot of the Subleased Premises. All commission payable to Subtenant's Broker shall be deducted from any amounts owed to Sublandlord's Broker under its separate agreement with Sublandlord. Commission shall be payable to Subtenant's Broker on the earlier to occur of (i) Sublandlord's receipt of the Prepayment and the Letter of Credit and (ii) the Commencement Date. No broker shall be deemed to be, or may make a claim as, a third party beneficiary of the terms of this Sublease, including, without limitation, this subsection (d).

(e) The Basic Sublease Information set forth above and any Addenda, Exhibits and Schedules attached hereto are incorporated into and made a part of the Sublease. Each reference in this Sublease to any of the Basic Sublease Information shall mean the respective information above. In the event of any conflict between the Basic Sublease Information and the provisions of the Sublease, the provisions of the Sublease shall control. This Sublease constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements and understandings related to the Subleased Premises. This Sublease may be modified only by a written agreement signed by Sublandlord and Subtenant and consented to by Master Tenant and Master Landlord, as applicable.

(f) Subtenant represents and warrants that the execution, delivery, and performance by Subtenant of its obligations under this Sublease have been duly authorized and will not violate any provision of Laws, any order of any court or other agency of government, or any indenture, agreement or other instrument to which it is a party or by which it is bound.

(g) This Sublease may be executed in multiple counterparts, and by each party on separate counterparts, each of which shall be deemed to be an original but all of which shall together constitute one agreement. Signature pages may be detached from the counterparts and attached to a single copy of this document to physically form one document. This Sublease may be executed in so-called "pdf" format and each party has the right to rely upon a pdf counterpart of this Sublease signed by the other party to the same extent as if such party had received an original counterpart.

(h) Subtenant represents and warrants that neither it, nor any Subtenant Party, (i) is directly or indirectly owned or controlled by any individual or entity included on the List of Specially Designated Nationals and Blocked Persons or the Foreign Sanctions Evaders List maintained by the Office of Foreign Assets Control, Department of the Treasury ("**OFAC**") or any other governmental entity imposing economic sanctions and trade embargoes, (ii) is directly or indirectly owned or controlled by any individual or entity who is located, organized, or resident in a country or territory that is, or whose government is, the target of sanctions imposed by OFAC or any other governmental entity ("**Sanctioned Territory**"); and (iii) shall provide any technology or technical information shared between the parties to any Sanctioned Territory or entity or individual that is a citizen of a Sanctioned Territory; Subtenant shall notify Sublandlord promptly upon knowledge of a violation of the foregoing (i) through (iii).

23. **California Civil Code Section 1938 Statement**. To Sublandlord's actual knowledge, the Subleased Premises has not undergone an inspection by a certified access specialist. For purposes of the preceding sentence, Sublandlord's actual knowledge shall mean and be limited to the actual knowledge of the person who is Sublandlord's Chief Financial Officer (not any other person) on the Effective Date, without any duty of inquiry or investigation, and such Chief Financial Officer shall have no personal liability if such representation is untrue. California Civil Code Section 1938 provides in relevant part as follows: "A Certified Access Specialist (CASp) can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy or potential occupancy of the lessee or tenant, if requested by the lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of the CASp inspection, the payment of the fee for the CASp inspection, and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the premises." Nothing in this paragraph or California Civil Code Section 1938 shall relieve or modify Subtenant's obligations with respect to (a) compliance with Laws, including without limitation any construction-related accessibility standards, as set forth elsewhere in this Sublease, including, without limitation, Section 5(a) and Section 8 above, or (b) payment of Additional Rent as set forth in Section 4 above. Subtenant hereby agrees that any Subtenant-initiated CASp inspection (x) shall be at Subtenant's sole cost and expense, and (y) shall take place during normal business hours following reasonable prior written notice to Sublandlord, Master Tenant and Master Landlord. Any information contained in a CASp report shall be maintained as confidential. Subtenant, at its sole cost and expense, shall be responsible for making any improvements, alterations, modifications and/or repairs to or within the Subleased Premises to correct violations of construction-related accessibility standards, including, without limitation, any violations disclosed by such CASp inspection; and if such CASp inspection identifies any improvements, alterations, modifications and/or repairs necessary to correct violations of construction-related accessibility standards relating to those items of the Building and/or the Project located outside the Subleased Premises then, at the Master Landlord's election, either Subtenant or the Master Landlord shall perform such improvements, alterations, modifications and/or repairs as and to the extent required by applicable laws to correct such violations, in either instance at Subtenant's sole cost and expense.

24. **Anti-Corruption**. Neither Subtenant nor any of its directors, officers, employees, or any agent, representative, subcontractor or other third party acting for or on Subtenant's behalf (collectively, "**Representatives**"), shall, directly or indirectly, offer, pay, promise to pay, or authorize such offer, promise or payment, of anything of value, to any person, governmental agency, or other entity for the purposes of obtaining any improper advantage in connection with this Sublease. Not by way of limitation of Section 5 of this Sublease, neither Subtenant nor any of its directors, officers or employees shall violate any applicable laws, rules and regulations concerning or relating to public or commercial bribery or corruption ("**Anti-Corruption Laws**"). Within five (5) business days of Sublandlord's written request, Subtenant shall execute and deliver a compliance certification (which certification may be limited to Subtenant's knowledge) with respect to Subtenant's compliance with Anti-Corruption Laws and this Section 24. If Subtenant shall breach the foregoing at any time during the Sublease Term, a Default will be deemed to have occurred, without the necessity of notice to Subtenant.

25. **Confidential Information**. During the Sublease Term, Sublandlord and Subtenant may each receive, obtain, or be given access to, whether directly or indirectly, including through audio or visual observation, information that relates to their respective business, finances, and/or technology (collectively, "**Proprietary Information**"), which such Proprietary Information shall include, without limitation, the existence and contents of this Sublease, the Master Lease, the Subleased Premises, the Building and the Project. Sublandlord and Subtenant shall each (i) not use the Proprietary Information for any purpose, except as is necessary to perform its obligations hereunder, (ii) not disclose any Proprietary Information, or component thereof, to any third party, (iii) within their respective organization, only disclose Proprietary Information to those Sublandlord Parties and Subtenant Parties, as applicable, who need such Proprietary Information for the purposes of performing the obligations hereunder and who are bound by obligations of confidentiality with respect to such Proprietary Information at least as protective as those contained herein, and (iv) use best efforts to protect the confidentiality of the Proprietary Information. Sublandlord and Subtenant shall each notify the other of any unauthorized use or disclosure of Proprietary Information and to take all actions reasonably necessary to prevent further unauthorized use or disclosure thereof. Sublandlord and Subtenant each also recognizes and agrees that they have no expectation of privacy with respect to Sublandlord's or Subtenant's, as applicable, telecommunications, networking or information processing systems (including, without limitation, stored computer files, email messages and voice messages) and that their respective activity, and any files or messages, on or using any of those systems may be monitored at any time without notice.

26. **No Publicity**. Sublandlord and Subtenant each hereby acknowledges and agrees that it shall not use, without the other's prior written approval, which may be withheld in such party's sole discretion, the name of the other party, its affiliates, trade names, trademarks or trade dress, products, or any signs, markings, or symbols from which a connection to such party may be reasonably inferred or implied, in any manner whatsoever, including, without limitation, press releases, marketing materials, or advertisements.

[Signature Page Follows]

IN WITNESS WHEREOF, Sublandlord and Subtenant have executed this Sublease effective as of Effective Date above written, on the dates set forth below.

SUBLANDLORD:

ZYMERGEN INC.,
a Delaware corporation

By: /s/ Celeste Ferber
Name: Celeste Ferber
Title: _____
Date: 11/11/2022

SUBTENANT:

METAGENOMI, INC.,
a Delaware corporation

By: /s/ Brian Thomas
Name: Brian Thomas
Title: _____
Date: 11/11/2022

EXHIBIT A

OUTLINE OF SUBLEASED PREMISES

EXHIBIT A

OUTLINE OF SUBLEASED PREMISES

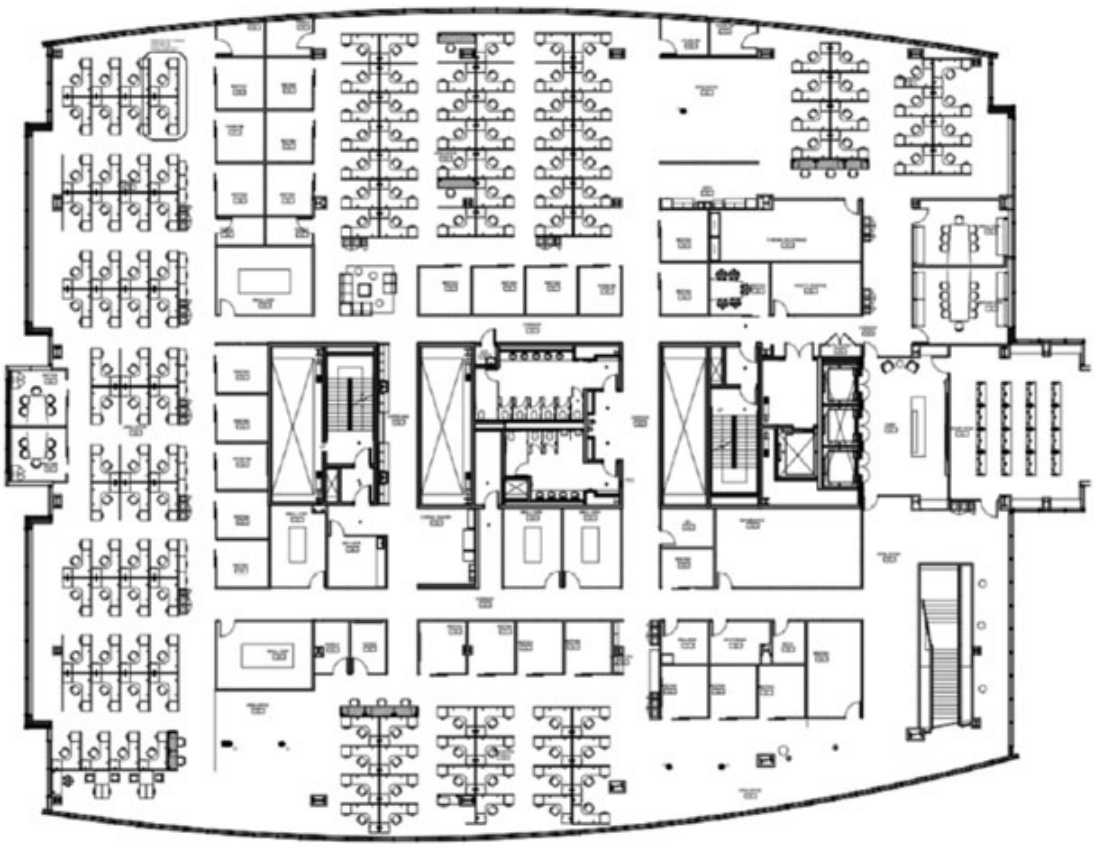


EXHIBIT B

MASTER LEASE

[to be attached]

SUBLEASE

THIS SUBLEASE (this "***Sublease***") is entered into as of July 12, 2019 (the "***Effective Date***"), by and between DYNAVAX TECHNOLOGIES CORPORATION, a Delaware corporation ("***Sublandlord***"), and ZYMERGEN INC., a Delaware corporation ("***Subtenant***"). Sublandlord and Subtenant may each be referred to herein as a "***Party***", and collectively, the "***Parties***."

RECITALS

This Sublease is made with reference to the following recitals of essential facts:

A. Sublandlord, as tenant, and Emery Station West, LLC, a California limited liability company ("***Master Landlord***"), as landlord, are parties to that certain Office/Laboratory Lease, dated as of September 17, 2018 (as may be amended from time to time, the "***Master Lease***"), for certain space located on the sixth (6th) and seventh (7th) floors of the building commonly known as 5959 Horton Street, Emeryville, CA (the "***Building***"), containing approximately 75,662 rentable square feet, as more particularly described in the Master Lease (the "***Master Premises***"). Capitalized terms used, but not defined, herein have the meanings set forth in the Master Lease, a copy of which has been previously provided to Subtenant.

B. Subject to the terms and conditions of this Sublease, Sublandlord desires to sublease to Subtenant, and Subtenant desires to sublease from Sublandlord, all of the Master Premises, as depicted in **Exhibit A** attached hereto (the "***Subleased Premises***") until the Expiration Date (as defined in Section 3).

NOW, THEREFORE, for valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

AGREEMENT

1. RECITALS. The foregoing recitals are hereby incorporated into this Sublease by this reference as if fully set forth herein.

2. SUBLEASED PREMISES. Sublandlord hereby subleases to Subtenant, and Subtenant hereby subleases from Sublandlord, the Subleased Premises. Additionally, Subtenant is hereby granted the nonexclusive right to use the common areas of the Building to the extent of Sublandlord's rights to use of the same pursuant to the Master Lease, in common with other tenants in the Building (collectively, the "***Common Areas***"), each throughout the Sublease Term (as defined in Section 3). Subtenant covenants that its use of the Subleased Premises and Common Areas shall at all times comply with all of the terms, conditions and provisions of the Master Lease and with all the rules and regulations established by Master Landlord from time to time.

3. SUBLEASE TERM. The term of this Sublease (the "***Sublease Term***") shall commence upon the latest to occur of: (a) Sublandlord's receipt of the Landlord Consent (as defined in Section 35), (b) Sublandlord's receipt of a Certificate of Occupancy, and (c) July 15, 2019 (the "***Commencement Date***"). Unless earlier terminated under any provision of the Master Lease or this Sublease, the Sublease Term shall continue until March 31, 2031 (the "***Expiration Date***").

Sublandlord shall deliver possession of the Subleased Premises to Subtenant upon the occurrence of all of the following: (a) Sublandlord's receipt of the Landlord Consent, (b) Sublandlord's receipt of the first full month's Base Rent (as defined in Section 4) and the Security Deposit (as defined in Section 8), and (c) Sublandlord's receipt of evidence that Subtenant carries the insurance required by the Master Lease and this Sublease.

4. BASE RENT. Beginning on the Commencement Date, Subtenant shall pay base rent to Sublandlord in an amount determined by multiplying rentable square feet of the Subleased Premises by the Applicable Monthly Base Rate (as hereinafter defined) (each payment, a monthly installment of "***Base Rent***"). As used herein, "***Applicable Monthly Base Rate***" shall be an amount equal to Five Dollars and Fifty Cents ($5.50) for the twelve (12) month period following the Commencement Date, which amount shall increase by a compounded three percent (3%) on each annual anniversary of the Commencement Date. Notwithstanding the foregoing, the Base Rent for the first five (5) full calendar months of the Sublease Term shall be abated; however, if Subtenant defaults resulting in an Event of Default under this Sublease during the Sublease Term, Subtenant shall not be entitled to any further Base Rent abatement, and if the Event of Default results in termination of the Sublease, then Subtenant shall pay to Sublandlord the unamortized portion of the abated Base Rent as of the termination date within thirty (30) days of receipt of an invoice therefor.

5. ADDITIONAL RENT. In addition to paying Base Rent, beginning on the Commencement Date, Subtenant shall pay to Sublandlord, as additional rent, Subtenant's Share of Rent Adjustment on a monthly basis throughout the Sublease Term in accordance with Section 4.1 of the Master Lease. As used in this Sublease, "***Subtenant's Share of Rent Adjustment***" means an amount which equals the ratio that the rentable square footage of the Subleased Premises bears to the rentable square footage of the Master Premises, multiplied by Rent Adjustment attributable to the Master Premises payable by Sublandlord to Master Landlord pursuant to Article 4 of the Master Lease. Sublandlord shall promptly forward to Subtenant all Landlord's Statements for the Master Premises that Sublandlord receives from Master Landlord. If Sublandlord receives a credit for overpayment of Rent Adjustment attributable to the Master Premises ("***Direct Expense Credit***") pursuant to Section 4.2 of the Master Lease, Subtenant shall receive a credit against the next installment of Rent due under this Sublease in an amount equal to the ratio that the rentable square footage of the Subleased Premises bears to the rentable square footage of the Master Premises at the time that the overpayment was made multiplied by the total Direct Expense Credit or, if the Sublease Term has ended, Sublandlord shall pay such amount to Subtenant within thirty (30) days of Sublandlord's receipt of the Direct Expense Credit. If Sublandlord needs to make a payment to Master Landlord due to an underpayment of Rent Adjustment attributable to the Master Premises ("***Direct Expense Shortfall***") pursuant to Section 4.2 of the Master Lease, Sublandlord shall submit to Subtenant an invoice therefor and Subtenant shall pay Sublandlord an amount equal to the ratio that the rentable square footage of the Subleased Premises bears to the rentable square footage of the Master Premises at the time the underpayment was made multiplied by the total Direct Expense Shortfall together with the next installment of Rent due or, if the Sublease Term has ended, Subtenant shall pay such amount to Sublandlord within thirty (30) days of Subtenant's receipt of an invoice therefor.

Notwithstanding anything in this Sublease to the contrary, Subtenant shall pay to Sublandlord, together with its payment of Subtenant's Share of Rent Adjustment, 100% of the cost of: (a) any charges that apply solely to the Subleased Premises (e.g., real estate taxes on leasehold improvements therein), (b) late fees or penalties assessed against Sublandlord or Master Landlord as a result of Subtenant's acts or omissions, (c) charges incurred as a result of excess or additional services requested by Subtenant for the Subleased Premises, and (d) the cost of utilities and janitorial services consumed by Subtenant in accordance with Section 6.2 of the Master Lease. Sublandlord shall pass through to Subtenant all abatements, credits, set-offs, offsets, and refunds received by Sublandlord under the Master Lease to the extent such abatements, credits, set-offs, and offsets directly relate to the Subleased Premises.

6. PAYMENT OF RENT. Base Rent, Rent Adjustment and any other amounts payable by Subtenant in connection with this Sublease are referred to in this Sublease as "***Rent***". Except as explicitly provided in this Sublease or the Master Lease, Rent shall be due and payable to Sublandlord without prior written notice or demand, in advance, without deduction or offset, in lawful money of the United States of America, on or before the first day of each calendar month during the Sublease Term. Rent shall be payable at Sublandlord's address set forth herein, or at such other place as Sublandlord may designate in writing to Subtenant. Rent for any period during this Sublease Term that is less than one (1) month shall be prorated based on a thirty (30) day month.

7. DELINQUENT PAYMENTS.

7.1. Late Fee. Subtenant acknowledges that Subtenant's late payment of Rent will cause Sublandlord to incur costs not contemplated by this Sublease, the exact amount of such costs being difficult and impractical to fix. Such other costs include, without limitation, processing, administrative and accounting charges and late charges that may be imposed on Sublandlord. Accordingly, if Sublandlord does not receive any Rent within five (5) days of its due date, Subtenant shall pay to Sublandlord an additional sum of five percent (5%) of the delinquent amount as a late charge. The Parties agree that this late charge represents a fair and reasonable estimate of the costs that Sublandlord will incur due to Subtenant's late payment of Rent. Sublandlord's acceptance of a late charge will not constitute a waiver of Subtenant's default with respect to the delinquent amount or prevent Sublandlord from exercising any of the other rights and remedies available to Sublandlord under this Sublease or under Applicable Laws (as defined in Section 12).

7.2. Interest. In addition to the late charges referred to above, if Sublandlord is charged interest by Master Landlord in accordance with Article III of the Master Lease, then Subtenant shall be responsible for reimbursing Sublandlord for such amount. Sublandlord's acceptance of interest payments will not constitute a waiver of Subtenant's default with respect to the delinquent amount or prevent Sublandlord from exercising any of the other rights and remedies available to Sublandlord under this Sublease or under Applicable Laws.

8. SECURITY DEPOSIT. Subtenant shall deposit with Sublandlord on or before the Effective Date the sum of One Million Six Hundred Sixty-Four Thousand Five Hundred Sixty-Four Dollars ($1,664,564) (the "***Security Deposit***"), which Sublandlord will hold as security for Subtenant's faithful performance of all of the terms, covenants and conditions of this Sublease to be kept and performed by Subtenant during the period commencing on the Effective Date and ending upon the expiration or earlier termination of Subtenant's obligations under this Sublease.

Sublandlord reserves the right to increase the amount of the Security Deposit (by the amount required to restore such Tenant Alteration) in the event that Subtenant desires to construct any Tenant Alterations in accordance with the Master Lease, and Subtenant shall restore such Tenant Alteration as required under the Master Lease, with such increase serving as security for Subtenant's faithful performance of such restoration obligation. Notwithstanding the foregoing, the Security Deposit shall not be increased, nor shall Subtenant have restoration obligations, with respect to the Subtenant Alterations pursuant to Section 9, so long as Master Landlord does not seek restoration for such Subtenant Alterations. If an Event of Default occurs with respect to any provision of this Sublease, including any provision relating to the payment of Rent, then Sublandlord may, but is not required to, use, apply or retain all or any part of the Security Deposit for the payment of any Rent or any other sum in default, or to compensate Sublandlord for any other loss or damage that Sublandlord may suffer by reason of Subtenant's Event of Default. If Sublandlord so uses or applies any portion of the Security Deposit, then Subtenant shall, within ten (10) days following demand therefor, deposit cash with Sublandlord in an amount sufficient to restore the Security Deposit to its original amount, and Subtenant's failure to do so shall be an Event of Default under this Lease. Sublandlord shall return to Subtenant the Security Deposit, less any portion thereof which Sublandlord may have used, applied, or retained as permitted by this Section 8 (provided that Sublandlord provides Subtenant with an accounting of the amounts so retained and how they were used or applied), within sixty (60) days after the expiration of the Sublease Term by lapse of time or termination of the Master Lease. Subtenant shall not be entitled to any interest on the Security Deposit, and Sublandlord shall have the right to commingle the Security Deposit with Sublandlord's other funds. The provisions of this Section 8 shall survive the expiration or earlier termination of this Sublease. SUBTENANT HEREBY WAIVES THE REQUIREMENTS OF SECTION 1950.7 OF THE CALIFORNIA CIVIL CODE, AS THE SAME MAY BE AMENDED FROM TIME TO TIME.

In lieu of the cash Security Deposit described above, the Security Deposit may be in the form of an irrevocable letter of credit (the "***Letter of Credit***") in an amount equal to the foregoing amount issued to Sublandlord, as beneficiary, in form and substance reasonably satisfactory to Sublandlord, by a bank reasonably approved by Sublandlord, in which case, the Letter of Credit shall serve as the Security Deposit under this Sublease. Subtenant shall deliver to Sublandlord the proposed form of Letter of Credit for Sublandlord's reasonable approval prior to issuance of such Letter of Credit. Subtenant shall maintain the Letter of Credit for the entire Sublease Term, provided that Subtenant may at any time substitute a cash Security Deposit for the Letter of Credit, and upon such substitution, Sublandlord shall return the Letter of Credit to Subtenant. Subtenant shall pay all expenses, points and/or fees incurred by Subtenant in obtaining and maintaining the Letter of Credit. The Letter of Credit shall secure Subtenant's full and faithful performance and observance of the terms, covenants and conditions of this Sublease. The Letter of Credit shall provide that it will be automatically renewed until at least sixty (60) days after the Expiration Date.

If, as of the sixth (6^{th}) anniversary of the Commencement Date, all of the following are true: a) all Rent due has been paid, b) Subtenant is not in an Event of Default hereunder, c) Subtenant's net worth and liquidity, as calculated pursuant to GAAP, are each not materially less than they were as of the Commencement Date, Sublandlord agrees that the Security Deposit amount shall be reduced by fifty percent (50%), and the amount by which the Security Deposit is reduced shall be returned to Subtenant within thirty (30) days following the sixth (6^{th}) anniversary of the Commencement Date. Failure of any of the above to be true at the end of the sixth (6th) anniversary of the Commencement Date shall mean the Security Deposit shall remain unchanged in amount for the balance of the Sublease Term.

9. CONDITION OF SUBLEASED PREMISES; SUBTENANT ALTERATIONS. Sublandlord represents and warrants to Subtenant that (i) Sublandlord has completed the Tenant Work prior to the Commencement Date and in accordance with the Master Lease (including Exhibit B of the Master Lease) and all other work required of Sublandlord by Master Landlord for occupancy of the Master Premises (e.g., installation of the Meter), (ii) as of the Commencement Date, to the best of its knowledge, the Building Systems serving the Premises are in good working condition and repair, and (iii) as of the Commencement Date, to the best of its knowledge, the Premises are in compliance with all local and state codes including Americans With Disabilities Act of 1990, 42 U.S.C. §12101, et seq. (as amended). Provided the foregoing representations and warranties are true, Subtenant accepts the Subleased Premises in their current "AS IS, WHERE IS" condition with all faults. Except as expressly set forth in this Sublease, Subtenant hereby waives all warranties, whether express or implied (including warranties of merchantability or fitness for a particular purpose), with respect to the Subleased Premises or any furniture, fixtures and equipment located therein, including, without limitation, the FF&E (as defined in Section 10). Except as expressly set forth in this Sublease, Sublandlord makes no representation or warranty of any kind with respect to the Subleased Premises, and Subtenant shall have full responsibility for making any desired repairs, installations, alterations or additions to the Subleased Premises. Any installations, alterations or additions which Subtenant desires to make to the Subleased Premises shall be subject to the prior written approval of both Master Landlord and Sublandlord and shall otherwise be constructed in accordance with all of the terms and conditions of the Master Lease.

Provided that Subtenant complies with the provisions of Article 9 of the Master Lease, Sublandlord consents to Subtenant performing the alterations (the "***Subtenant Alterations***") described in **Exhibit B** attached hereto. Notwithstanding anything in this Sublease or the Master Lease to the contrary, the Security Deposit shall not be increased due to the Subtenant Alterations, nor shall Subtenant have any obligation to remove the Subtenant Alterations, or restore the Subleased Premises to its condition prior to the Subtenant Alterations, at the end of the Sublease Term. This paragraph, and Subtenant's consent hereto, shall be subject to Subtenant's receipt of consent to same from the Master Landlord.

10. FF&E. Provided no Event of Default (as defined in Section 22) has occurred and is continuing, Subtenant may utilize all the furniture, fixtures and equipment owned by Sublandlord and located in the Subleased Premises as of the Commencement Date (collectively, the "***FF&E***") during the Sublease Term, which such FF&E are itemized in **Exhibit C** attached hereto. Sublandlord represents and warrants as of the Commencement Date that (i) Sublandlord is the rightful owner of the FF&E, (ii) the FF&E has not otherwise been sold or assigned to any other person or entity, (iii) the FF&E is free and clear of all liens, encumbrances, claims and demands, and (iv) to the best of Sublandlord's knowledge, the FF&E is in good operating condition and free of any defects. Except as provided in the immediately preceding sentence, Subtenant shall accept the FF&E in its "AS-IS, WHERE-IS, WITH ALL FAULTS" condition as of the Commencement Date, and Sublandlord shall have no liability to Subtenant of any kind under any circumstances arising out of or in connection with the FF&E arising from and after the Commencement Date of such FF&E or Subtenant's use thereof. Subtenant hereby releases Sublandlord from and against any and all claims, damages, costs, expenses and liabilities arising out of or in connection with the

FF&E, and/or Subtenant's use thereof, from and after the Commencement Date, including, without limitation, any taxes with respect to the FF&E and/or Subtenant's use thereof, and any related interest and penalties resulting from late payment by Subtenant thereof (collectively, "**FF&E Claims**"), and Subtenant shall indemnify, defend and hold Sublandlord harmless from and against any and all FF&E Claims accruing on and after the Commencement Date. Notwithstanding the foregoing, Sublandlord shall inform Subtenant of the terms and conditions of any manufacturer's warranties or guarantees ("***Manufacturer's Warranties***") with respect to the FF&E in effect as of the Commencement Date, and in the event of any FF&E defect in design, material, or workmanship covered by such Manufacturer's Warranties, Sublandlord shall assert such applicable Manufacturer's Warranties using commercially reasonable efforts after Subtenant notifies Sublandlord of the defect. Subtenant shall maintain the FF&E in good condition and repair, reasonable wear and tear excepted, and shall be responsible for any loss or damage to the FF&E occurring from the Commencement Date through the Expiration Date. Subtenant may freely move, and/or remove any of the FF&E from the Subleased Premises without replacement thereof or notification to Sublandlord. On the Expiration Date, Subtenant shall purchase the FF&E from Sublandlord for the sum of One Dollar ($1.00) pursuant to a bill of sale in form and content substantially identical to the form of Bill and Sale attached hereto as **Exhibit D**, in its "AS IS, WHERE IS" condition, without representation or warranty whatsoever, except that Sublandlord is the rightful owner of the FF&E, that the FF&E has not otherwise been sold or assigned to any other person or entity, and that the FF&E is free and clear of all liens, encumbrances, claims and demand.

11. USE. Subtenant may use the Subleased Premises solely for the Permitted Use, and for no other use. Subtenant's use of the Subleased Premises must at all times comply with the requirements of the Master Lease, and Subtenant shall not use the Subleased Premises in a manner that is in any way inconsistent with the Master Lease or that might cause Sublandlord to be in breach of the Master Lease. Subtenant shall not commit or allow to be committed any waste upon the Building or Subleased Premises, or any public or private nuisance or act which is unlawful. Subtenant shall not commit any act that will increase the then existing rate of insurance on the Building or the Master Premises. Subtenant shall promptly pay upon demand the amount of any such increase in insurance rates caused by any act of Subtenant.

12. COMPLIANCE WITH LAWS. Subtenant shall, at its sole cost and expense, promptly comply with all laws, ordinances and regulations with respect to Subtenant's use, occupancy or improvement of the Subleased Premises, including, without limitation, the Americans With Disabilities Act of 1990, 42 U.S.C. §12101, et seq. (as amended, together with the regulations promulgated pursuant thereto) (collectively, "***Applicable Laws***"). Additionally, Subtenant shall be responsible, at its sole cost and expense, to reimburse Sublandlord for any legal compliance costs incurred by Sublandlord with respect to the Subleased Premises as a result of Subtenant's (a) specific use and occupancy of the Subleased Premises (as opposed to general office use), (b) obtaining any permit or license with respect to the Subleased Premises, or (c) making any installations, additions or alterations to the Subleased Premises.

13. COMPLIANCE WITH MASTER LEASE.

13.1. Subtenant Representations, Warranties, and Covenants. Subtenant represents and warrants that it will occupy the Subleased Premises in accordance with all of the terms and conditions of the Master Lease as they apply to the Subleased Premises and will not suffer to be done or omit to do any act which may result in a violation of or a default under any of the terms and conditions of the Master Lease, or render Sublandlord liable for any damage, charge or expense thereunder. Subtenant further covenants and agrees that it will indemnify Sublandlord against and hold Sublandlord harmless from any claim, demand, action, proceeding, suit, liability, loss, judgment, expense (including reasonable attorneys' fees) and damages of any kind or nature whatsoever ("***Claims***") arising out of, by reason of, or resulting from, Subtenant's failure to perform or observe any of the terms and conditions of the Master Lease applicable to the Subleased Premises or this Sublease.

13.2. Sublandlord Representations, Warranties, and Covenants. Sublandlord represents and warrants the following is true and correct as of the Effective Date and Commencement Date: (i) Sublandlord is the tenant under the Master Lease and has the capacity to enter into this Sublease with Subtenant, subject to Master Landlord's consent, (ii) the Master Lease attached hereto as **Exhibit E** is a true, correct, and complete copy of the Master Lease, is in full force and effect, and has not been further modified, amended, or supplemented except as expressly set out herein, (iii) Sublandlord has not received any notice, and has no actual knowledge, of any default by Sublandlord under the Master Lease, and (iv) Sublandlord has no actual knowledge of any default by Master Landlord under the Master Lease. Sublandlord covenants that it will maintain the Master Lease during the entire Sublease Term, subject, however, to any earlier termination of the Master Lease without the fault of Sublandlord. Sublandlord shall use commercially reasonable efforts to cause the Master Landlord to perform its obligations under the Master Lease (including without limitation by making written demands to Master Landlord to perform its obligations under the Master Lease with respect to the Subleased Premises) and shall use commercially reasonable efforts to cooperate with Subtenant in its efforts to obtain such performance. Sublandlord hereby covenants not to enter into any amendment or other agreement with respect to the Master Lease without the prior written consent of the Subtenant.

13.3. Subordination of Sublease. This Sublease is subject and subordinate to the Master Lease in all respects. If the Master Lease is terminated for any reason whatsoever, then this Sublease shall automatically terminate as if it expired by its terms (unless assumed by Master Landlord), and in such event neither Sublandlord nor Master Landlord shall have any liability whatsoever to Subtenant as a result of such termination, except that Sublandlord shall be liable to Subtenant for any such termination arising as a result of Sublandlord's default under the Master Lease (to the extent not caused by Subtenant's acts or omissions). Except as expressly provided in Section 13.2, under no circumstance shall Sublandlord be obligated to, or be responsible or liable in any way for, Master Landlord's failure to (a) perform any acts required to be completed by Master Landlord under the Master Lease, (b) supply any item, including, but not limited to, any utility or service to the Subleased Premises required to be supplied by Master Landlord under the Master Lease, or (c) complete any work or maintenance in the Subleased Premises, the Building or the Master Premises required to be completed by Master Landlord under the Master Lease; and no such failure will in any way excuse Subtenant's performance under this Sublease or entitle Subtenant to any abatement of Rent, unless Sublandlord has so received an abatement of Rent from Master Landlord, in which case such abatement shall be passed through to Subtenant.

13.4. Incorporation of Terms. Except as expressly provided in this Section 13.4 or as otherwise stated in this Sublease, Subtenant hereby assumes and agrees to perform, and shall inure to the benefit of, each and every covenant, term, condition, and obligation binding on or inuring to the benefit of Sublandlord under the Master Lease with respect to the Subleased Premises (and Sublandlord shall have the right to elect to require Subtenant to perform its obligations under the Master Lease directly to Master Landlord on prior written notice and Master Landlord's consent to the same). Whenever the term "Landlord," "Tenant," or "Premises" appears in the Master Lease, the word "Sublandlord," "Subtenant" or "Subleased Premises" shall be substituted therefore. Notwithstanding the foregoing, (i) to the extent of any inconsistencies between the express terms of this Sublease and the terms of the Master Lease incorporated herein by reference, the express terms of this Sublease shall control, (ii) Subtenant shall have no renewal or extension rights (including the Renewal Option), other options under the Master Lease (including the Right of First Offer and Special ROFO) or rights to terminate the Master Lease, whether following a casualty or condemnation event, or otherwise, without prior written consent of Sublandlord and Master Landlord, which may be withheld or conditioned at their sole discretion, (iii) with respect to any obligation of Subtenant to be performed under this Sublease, except as provided in this Sublease, wherever the Master Lease grants to Sublandlord a specified number of days after notice or other time condition to perform its corresponding obligation under the Master Lease (excluding the payment of Rent), Subtenant shall have one-third fewer days (rounded to the nearest whole day) to perform the obligation (by way of example only, Subtenant shall have 10 fewer days to perform an obligation to be performed in 30 days, and shall have 2 fewer days to perform an obligation to be performed in 5 days), including, without limitation, curing any defaults. Any default notice or other notice of any obligations (including any billing or invoice for any Rent or any other expense or charge due under the Master Lease) from Master Landlord which is received by Subtenant (whether directly or as a result of being forwarded by Sublandlord) shall constitute such notice from Sublandlord to Subtenant under this Sublease without the need for any additional notice from Sublandlord, and (iv) Sublandlord shall be solely responsible for any obligations and liability arising under the Master Lease prior to the Commencement Date. Whenever the provisions of the Master Lease require the written consent of Master Landlord, said provisions shall be construed to require the written consent of both Master Landlord and Sublandlord. For any act requiring Master Landlord consent, upon request from Subtenant and subject to Subtenant's full cooperation, Sublandlord shall promptly make such consent request on behalf of Subtenant and Subtenant shall promptly provide any information or documentation that Master Landlord may request. Wherever the provisions of the Master Lease require the indemnification of Master Landlord, said provisions shall be construed to require the indemnification of both Master Landlord and Sublandlord (and their respective owners, partners, principals, members, trustees, officers, directors, shareholders, agents, employees and lenders). Subtenant hereby acknowledges that it has read and is familiar with all the terms of the Master Lease.

13.5. Survival. The provisions of this Section 13 shall survive the expiration or earlier termination of this Sublease.

14. UTILITIES; SERVICES. Sublandlord shall have no obligation to provide to the Subleased Premises any services or utilities (including, without limitation, telephone or internet services) of any kind and shall have no liability for any interruption in utilities or services to the Subleased Premises; provided, however, that to the extent Sublandlord provides any services or utilities to the Subleased Premises, Subtenant shall pay to Sublandlord (upon receipt of invoice) the amounts necessary to reimburse Sublandlord for the actual costs of providing such services.

Sublandlord shall not be responsible or liable in any way for any failure or interruption, for any reason whatsoever, of the services, utilities or facilities that may or should be appurtenant or supplied to the Subleased Premises, and no such failure will in any way excuse Subtenant's performance under this Sublease or entitle Subtenant to any abatement of Rent, unless Sublandlord receives such an abatement from Master Landlord, in which case such abatement shall be passed through to Subtenant, or such failure is a result of Sublandlord's gross negligence or willful misconduct, or Sublandlord's default under the Master Lease, in which event Subtenant may contract directly with Master Landlord to restore such interrupted utilities and services. Subtenant shall pay to Sublandlord as Rent hereunder any and all sums which Sublandlord may be required to pay to Master Landlord or any service provider arising out of excess consumption by Subtenant or a request by Subtenant for additional building services (e.g., charges associated with after-hours HVAC usage and over-standard electrical charges). Notwithstanding anything to the contrary in this Sublease or the Master Lease, Subtenant agrees that Sublandlord shall not be required to perform any of the covenants, agreements or obligations of Master Landlord under the Master Lease and, insofar as any of the covenants, agreements and obligations of Sublandlord hereunder are required to be performed under the Master Lease by Master Landlord thereunder, Subtenant acknowledges and agrees that Subtenant will look solely to Master Landlord for such performance, subject to Section 13.2.

15. MAINTENANCE; "TENANT WORK". Subtenant shall perform all maintenance and repairs in the Subleased Premises which Sublandlord is required to perform under the Master Lease; provided, however, that, at Sublandlord's option, or if Subtenant fails to make such repairs, Sublandlord may, but need not, make such repairs and replacements, and Subtenant shall pay Sublandlord's costs or expenses, arising from Sublandlord's involvement with such repairs and replacements upon being billed for same. Notwithstanding the foregoing, with respect to the Tenant Work performed by Sublandlord pursuant to the Master Lease, Sublandlord shall be solely responsible for completing any "punch list" items and correcting any defects, deviations, or disapprovals identified by Master Landlord pursuant to Master Landlord's inspection under Exhibit B of the Master Lease. For the avoidance of doubt, in no event shall Sublandlord be obligated to undertake any maintenance and repair obligations that are the responsibility of Master Landlord under the Master Lease.

16. ASSIGNMENT AND SUBLETTING. Subtenant shall not assign, mortgage, hypothecate, encumber or otherwise transfer this Sublease or sub-sublease (which term shall be deemed to include the granting of concessions and licenses and the like) the whole or any part of the Subleased Premises, including by operation of law (any of the foregoing, an "***Assignment***"), without in each case first obtaining the prior written consent of Sublandlord, not to be unreasonably withheld; it being agreed that it shall be deemed reasonable for Sublandlord to withhold its consent to an Assignment, if Master Landlord has withheld its consent to the same. No Assignment shall relieve Subtenant of any liability under this Sublease. Consent to any such Assignment shall not operate as a waiver of the necessity for consent to any subsequent Assignment. In connection with each request for an Assignment, Subtenant shall pay up to $2,500 Sublandlord's reasonable costs of processing such Assignment, including reasonable attorneys' fees, and any fees or costs payable under the Master Lease, upon demand of Sublandlord. Any assignee or subtenant shall assume all of Subtenant's obligations under this Sublease and be jointly and severally liable with Subtenant hereunder. Any Assignment hereunder must comply with terms and conditions in Article 10 of the Master Lease.

17. INDEMNITY. Without in any way limiting the applicability or terms of any indemnities found in the Master Lease, Subtenant shall, except to the extent caused by Sublandlord's negligence or willful misconduct, indemnify, protect, defend and hold harmless Master Landlord and Sublandlord or any of its owners, partners, principals, members, trustees, officers, directors, shareholders, agents, employees and lenders ("***Sublandlord Related Parties***"), from and against any and all Claims occurring within the Subleased Premises on or after the Commencement Date or arising out of, involving, or in connection with, (a) the use or occupancy of the Subleased Premises by Subtenant, (b) the acts or omissions of Subtenant or any of Subtenant's invitees, agents or employees, (c) any breach of this Sublease by Subtenant, and (d) any violation of Applicable Laws caused by Subtenant. If any action or proceeding is brought against Master Landlord or Sublandlord by reason of any of the foregoing matters, Subtenant shall upon notice defend the same at Subtenant's expense by counsel reasonably satisfactory to Master Landlord and Sublandlord. Sublandlord shall, except to the extent caused by Subtenant's negligence or willful misconduct, indemnify, protect, defend, and hold harmless Subtenant and any of its owners, partners, principals, members, trustees, directors, officers, shareholders, agents, employees, and lenders ("***Subtenant Related Parties***"), from and against any and all Claims occurring within the Subleased Premises prior to the Commencement Date or arising out of, involving, or in connection with (a) the use or occupancy of the Subleased Premises by Sublandlord prior to the Commencement Date, or (b) breach of this Sublease by Sublandlord. If any action or proceeding is brought against Subtenant by reason of any of the foregoing matters, Sublandlord shall upon notice defend the same at Sublandlord's expense by counsel reasonably satisfactory to Subtenant. This Section 17 shall survive the expiration or earlier termination of this Sublease.

18. EXEMPTION OF SUBLANDLORD FROM LIABILITY. Unless caused by Sublandlord's gross negligence or willful misconduct, Sublandlord shall not be liable for injury or damage to the person or goods, wares, merchandise, or other property of Subtenant, Subtenant's employees, contractors, invitees, customers, or any other person in or about the Master Premises, whether such damage or injury is caused by or results from fire, steam, electricity, gas, water or rain, or from the breakage, leakage, obstruction or other defects of pipes, fire sprinklers, wires, appliances, plumbing, air conditioning or lighting fixtures, or from any other cause, whether said injury or damage results from conditions arising from the Master Premises or from any other source or place, and regardless of whether the cause of damage or injury or the means of repairing the same is accessible. Notwithstanding any provision in this Sublease to the contrary, neither Sublandlord nor any Sublandlord Related Parties, Master Landlord, any holder of any mortgage, deed of trust, or other security instrument encumbering the Building, the Building ground lessor, the Building property manager, the Building leasing manager, nor their respective partners, members, officers, directors, agents, or employees (collectively, the "Indemnitees"), shall be liable for (and Subtenant hereby waives any claims for) any consequential damages, compensation or claims for inconvenience or loss of business, rents or profits as a result of any injury or damage, whether or not caused by the willful and wrongful act of any of the foregoing Indemnitees. Subtenant and its respective partners, members, officers, directors, agents, and employees shall only be liable to Sublandlord and Sublandlord's Related Parties for any consequential damages, compensation or claims for inconvenience or loss of business, rents or profits as a result of any injury or damage to the extent; (a) (i) caused directly by an act or omission of Subtenant or any of Subtenant's invitees, agents or employees and (ii) Master Landlord has brought an action or proceeding against Sublandlord for same; or (b) to the extent resulting from a holdover (which is governed by Section 24 of this Sublease). Without limiting Subtenant's indemnity obligations under Section 17, Subtenant shall indemnify Sublandlord in accordance with Section 17 for any Claims brought by Master Landlord against Sublandlord pursuant to item (a)(ii) above, provided that (a)(i) is satisfied.

19. DAMAGE AND DESTRUCTION; CONDEMNATION. In no event shall Sublandlord have any obligation to Subtenant to restore the Subleased Premises or the Master Premises if damaged, destroyed or condemned as described in Article 14 or Article 15 of the Master Lease. To the extent any damage, destruction or casualty loss occurs in the Master Premises or Subleased Premises which entitles Sublandlord to terminate the Master Lease, Sublandlord shall so notify Subtenant, and Sublandlord may terminate the Master Lease, in which event this Sublease shall automatically terminate without liability to Subtenant. With respect to damage, destruction or condemnation (as described in Articles 14 and 15 of the Master Lease), Subtenant shall be entitled to any abatement, credits, allowances, awards, insurance proceeds, or other compensation for loss or relocation, in each case as received by Sublandlord and only to the extent pertaining to the Subleased Premises, any Tenant Additions made by Subtenant, or any Subtenant personal property, trade fixtures, and equipment, or any interruption of Subtenant's business, and only to the extent provided under the Master Lease.

20. BROKERS. Sublandlord and Subtenant hereby represent and warrant to each other that they have had no dealings with any real estate broker or agent in connection with the negotiation of this Sublease, and that they know of no other real estate broker or agent who is entitled to a commission in connection with this Sublease, other than: (a) Cresa, representing Sublandlord, and (b) Savills, representing Subtenant (collectively, the "***Brokers***"). Each Party agrees to indemnify and defend the other Party against and hold the other Party harmless for, from and against any and all Claims with respect to any leasing commission or equivalent compensation alleged to be owing on account of the indemnifying Party's dealings with any real estate broker or agent other than the Brokers. The indemnities in this Section 20 shall survive the expiration or termination of this Sublease. Sublandlord shall pay the Brokers applicable commissions per a separate agreement.

21. NOTICES. Any notice, demand or request required or desired to be given under this Sublease to Sublandlord or Subtenant shall be in writing via (a) personal delivery, (b) First Class U.S. Mail, return receipt requested, (c) FedEx or other reputable overnight carrier, or (d) email (but only if a hard copy is sent within one (1) business day thereafter by one of the methods in the foregoing sections (a) through (c)), and shall be addressed to the address of the Party to be served, as set forth in this Section 21. Either Party may from time to time, by written notice to the other Party in accordance with this Section 21, designate a different address than that set forth below for the purpose of notice. Upon receipt of any notice from Master Landlord, Subtenant shall promptly deliver a copy of such notice to Sublandlord in accordance with the terms and conditions of this Section 21. Upon receipt of any notice from Master Landlord, Sublandlord shall promptly deliver a copy of such notice to Subtenant in accordance with the terms and conditions of this Section 20.

Sublandlord:	**Subtenant:**
Dynavax Technologies Corporation Attn: Chief Financial Officer 2929 7th Street, Suite 100 Berkeley, CA 94710 Email:	Zymergen Inc. Attn: VP Real Estate & Facilities 5980 Horton St., Suite 105 Emeryville, CA 94608 Email:
With a copy to:	*With a copy to:*
Dynavax Technologies Corporation Attn: General Counsel 2929 7th Street, Suite 100 Berkeley, CA 94710	Zymergen Inc. Attn: General Counsel 5980 Horton St., Suite 105 Emeryville, CA 94608 Email:

22. DEFAULT. The occurrence of any of the following events (each, an "***Event of Default***") shall constitute a material default and breach of this Sublease by Subtenant: (a) Subtenant's failure to pay Rent, where such failure shall continue for a period of four (4) days following Subtenant's receipt of written notice thereof from Sublandlord; provided, however, that any such notice shall be in lieu of, and not in addition to, any notice required under California Code of Civil Procedure, Section 1161, (b) the occurrence of any of the events described in Article 11 of the Master Lease due to Subtenant's acts or omissions, which remain uncured after the cure period provided in the Master Lease as such cure period is adjusted pursuant to this Sublease. Upon any Subtenant Event of Default under this Sublease, Sublandlord shall have all of the remedies available to Master Landlord pursuant to the Master Lease, including, without limitation, the remedies enumerated in Section 11.2 of the Master Lease. All of Sublandlord's rights and remedies herein enumerated or incorporated by reference above are cumulative, and none will exclude any other right or remedy allowed by law or in equity.

The following events (each, an "***Event of Default***") shall constitute a material default and breach of this Sublease by Sublandlord: the occurrence of any of the events described in Article 11 of the Master Lease due to Sublandlord's acts or omissions, which remain uncured after the cure period provided in the Master Lease. Upon any Sublandlord Event of Default under this Sublease, Subtenant shall have all rights or remedies allowed by law or in equity.

23. SURRENDER. On the expiration or earlier termination of this Sublease, Subtenant shall, at its sole cost and expense, surrender and deliver up the Subleased Premises to Sublandlord, in a broom-clean, good and tenantable condition, excepting ordinary wear and tear, repair and maintenance for which Master Landlord is responsible under the Master Lease and casualty damage, and otherwise in accordance with the requirements of the Master Lease, including, without limitation, removal of Required Removables in accordance with Section 12.1 of the Master Lease. Subtenant acknowledges that, pursuant to Section 12.1 of the Master Lease, all permanent improvements, including the Subtenant Alterations, shall remain upon the Subleased Premises at the end of the Sublease Term without compensation to Subtenant, except for the Required Removables.

24. HOLDOVER. If Subtenant fails to surrender the Subleased Premises in accordance with the terms and conditions of this Sublease on or before the Expiration Date or earlier termination of this Sublease, such tenancy shall be from month-to-month only, at a rental rate that is 150% of the monthly Rent payable under this Sublease immediately prior to termination or expiration of this Sublease, and shall not constitute a renewal or extension of this Sublease. Notwithstanding any provision to the contrary contained in this Sublease, (i) Sublandlord expressly reserves the right to require Subtenant to surrender possession of the Subleased Premises upon the expiration of the Sublease Term or upon the earlier termination hereof and the right to assert any remedy at law or in equity to evict Subtenant or collect damages in connection with any such holding over, and (ii) Subtenant shall indemnify, defend and hold Sublandlord harmless from and against any and all Claims incurred or suffered by Sublandlord by reason of Subtenant's failure to surrender the Subleased Premises on the expiration or earlier termination of this Sublease in accordance with the provisions of this Sublease, including without limitation one hundred percent (100%) of all holdover rent and other costs chargeable to Sublandlord pursuant to the Master Lease as a result of Subtenant's holdover. The provisions of this Section 24 shall survive the expiration or earlier termination of this Sublease.

25. PARKING. During the Sublease Term, Subtenant shall have the right to park at the Garage or at such other location(s) in the vicinity of the Project designated by Master Landlord or Master Landlord's parking operator from time to time, on an unreserved basis, up to 151 cars (two (2) unreserved parking spaces for each (1,000) rentable square feet of the Subleased Premises), in accordance with Section 2.5 of the Master Lease. Subtenant's right to use the parking space is expressly conditioned upon Subtenant's compliance with terms and conditions of the Master Lease and all reasonable rules and regulations respecting parking established from time to time by Master Landlord.

26. SIGNAGE. Subtenant's signage rights under Section 6.7 of the Master Lease are conditioned on Master Landlord's prior written consent.

27. INSURANCE. The provisions of Article 16 of the Master Lease pertaining to insurance shall be incorporated into this Sublease, subject to the following terms. For purposes of this Sublease, the term "Tenant" in Article 16 of the Master Lease Agreement shall be deemed to mean Subtenant, and the term "Landlord" shall be deemed to mean Master Landlord (except that the release and waiver of subrogation shall also apply as between Sublandlord and Subtenant, as well as between Sublandlord and Subtenant) and the term "Premises" shall mean the "Subleased Premises", except that all policies of liability insurance required to be maintained by Subtenant hereunder and thereunder shall name Sublandlord and Master Landlord as additional named insureds and all notices related to such insurance and all evidence of such policies shall be delivered to Sublandlord and Master Landlord. The form of insurance certificate to be provided by Sublandlord shall be subject to approval by Sublandlord and Master Landlord.

28. LIMITATION OF LIABILITY. None of the Sublandlord Related Parties shall have any personal liability for any default by Sublandlord under this Sublease or arising in connection herewith or with the operation, management, leasing, repair, renovation, alteration or any other matter relating to the Project or the Subleased Premises, and Subtenant hereby expressly waives and releases such personal liability on behalf of itself and all persons claiming by, through or under Subtenant. The terms of this Section 28 shall inure to the benefit of Sublandlord's and the Sublandlord Related Parties' present and future partners, beneficiaries, officers, directors, trustees, shareholders, agents and employees, and their respective partners, heirs, successors and assigns.

29. ESTOPPEL. Within ten (10) business days after request therefor by Sublandlord, Subtenant agrees to execute an Estoppel Certificate in accordance with Article 21 of the Master Lease.

30. GOVERNING LAW. The terms and provisions of this Sublease shall be construed in accordance with and governed by the laws of the State of California.

31. PARTIAL INVALIDITY. If any term, provision or condition contained in this Sublease shall, to any extent, be invalid or unenforceable, the remainder of this Sublease, or the application of such term, provision or condition to persons or circumstances other than those with respect to which it is invalid or unenforceable, shall not be affected thereby, and each and every other term, provision and condition of this Sublease shall be valid and enforceable to the fullest extent possible permitted by law.

32. ATTORNEYS' FEES. If any Party commences litigation against another in connection with this Sublease, for damages for the breach hereof or otherwise for enforcement of any remedy hereunder, the prevailing Party shall be entitled to recover from the other Party such costs and reasonable attorneys' fees as may have been incurred, including any and all costs incurred in enforcing, perfecting and executing such judgment.

33. COUNTERPARTS AND ELECTRONIC SIGNATURES. This Sublease may be executed in counterparts, each of which shall be deemed an original, but such counterparts, when taken together, shall constitute one agreement. This Sublease may be executed by a Party's signature transmitted by email, and copies of this Sublease executed and delivered by means of emailed signatures shall have the same force and effect as copies hereof executed and delivered with original signatures. All Parties hereto may rely upon emailed signatures (including signatures in Portable Document Format) as if such signatures were originals. All Parties hereto agree that an emailed signature page may be introduced into evidence in any proceeding arising out of or related to this Sublease as if it were an original signature page.

34. ENTIRE AGREEMENT. This Sublease, together with the Master Lease as incorporated or referenced herein, constitutes the entire agreement and complete understanding of the Parties with respect to the matters set forth herein and merges and supersedes all prior, oral and written, agreements and understandings, and all contemporaneous oral agreements and understandings, of any nature whatsoever with respect to such subject matter.

35. MASTER LANDLORD'S CONSENT. This Sublease is subject to and contingent upon and shall be of no force or effect until Master Landlord's execution of a written consent to this Sublease in a form reasonably acceptable to the Parties hereto (the "***Landlord Consent***"). In the event Master Landlord does not so execute the Landlord Consent within thirty (30) days of the Effective Date, either Party may terminate this Sublease upon written notice to the other Party after the expiration of such thirty (30) day period, but before Master Landlord delivers the Landlord Consent. If this Sublease is so terminated, Sublandlord shall promptly return to Subtenant any prepaid Rent and the Security Deposit previously paid to Sublandlord. Neither Party shall have any liability to the other for any termination or cancellation of this Sublease as a result of Master Landlord's failure or refusal to consent to this Sublease despite such efforts by the Parties hereto.

[*Signature page follows*]

IN WITNESS WHEREOF, Sublandlord and Subtenant have executed this Sublease as of the date and year set forth above.

SUBLANDLORD:

DYNAVAX TECHNOLOGIES CORPORATION,
a Delaware corporation

By: /s/ Ryan Spencer
Name: Ryan Spencer
Title: Co-President

SUBTENANT:

ZYMERGEN INC.,
a Delaware corporation

By: /s/ Enakshi Singh
Name: Enakshi Singh
Title: VP, Finance

EXHIBIT A

Subleased Premises

6th Floor

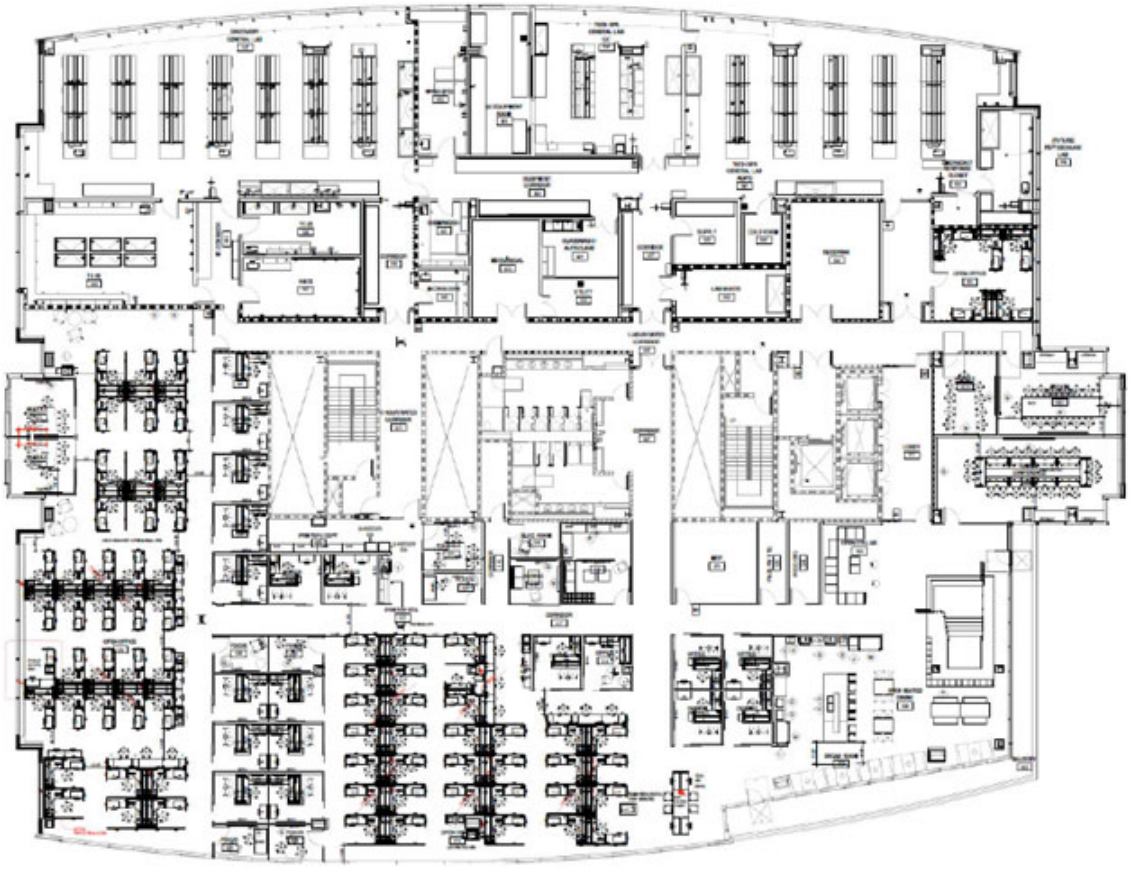


EXHIBIT A

Subleased Premises

7th Floor

EXHIBIT B

Subtenant Alterations

6th Floor

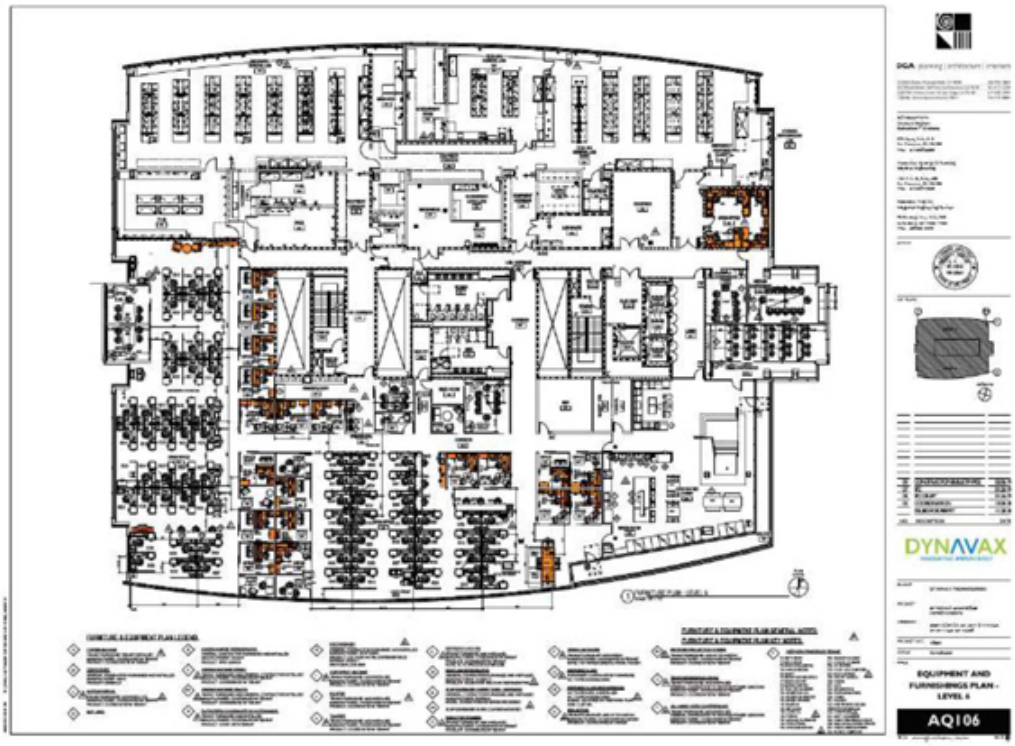


EXHIBIT B

Subtenant Alterations

7th Floor

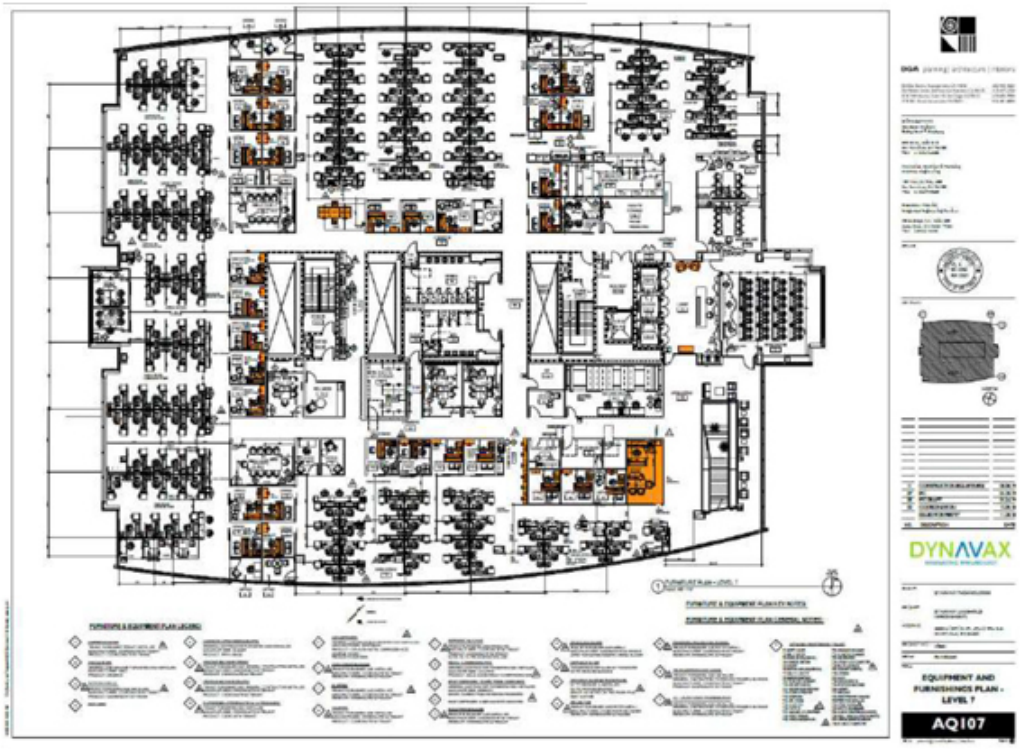


EXHIBIT C

FF&E

5959 Horton FF&E

- (216) 6x8 workstations with height adjustable work surface and various storage configurations
- Assorted conference/huddle/focus room furniture including tables, chairs and credenzas
- 100 black desk chairs
- Breakroom and open collaboration area furniture on 6th floor
- 6 leatherette chairs & 3 tables on 7th floor
- All centralized waste containers
- Small tables located in private offices
- Security hardware including card readers, security cameras, and AiPhone stations in freight elevators
- TAB file system
- Breakroom and coffee bar accessories: refrigerators, microwaves, and dishwashers
- 2 lab freezers
- 1 lab deli case
- 9 biosafety cabinets
- Televisions in conference and huddle rooms

EXHIBIT D

BILL OF SALE

This BILL OF SALE ("**Agreement**") is made and entered into as of _____, from _____ ("**Seller**") to _____ ("**Buyer**").

RECITALS

A. Seller has subleased to Buyer, and Buyer has subleased from Seller, certain space located at _____ in that certain Sublease dated _____ (the "**Premises**").

B. Seller is the owner of certain furniture, fixtures and equipment (the "**FF&E**") as listed on Exhibit C of the Sublease and made a part hereof, which is currently located in the Sublease Premises.

C. Seller has agreed to sell, transfer and convey to Buyer all of Seller's right, title and interest in and to the FF&E upon the terms and conditions of this Agreement.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are acknowledged, Seller and Buyer agree as follows:

TERMS AND CONDITIONS

1. Consideration. As consideration for the sale of the FF&E by Seller to Buyer, Buyer hereby agrees to pay to Seller the amount of One Dollar ($1.00) (the "**Purchase Price**").

2. Transfer and Assignment. Subject to the terms and provisions contained herein, as of the date of this Agreement, Seller transfers and conveys to Buyer all of Seller's right, title and interest in and to the FF&E, and under any manufacturer's warranties or guarantees (the "**Manufacturer's Warranties**") related to the FF&E, free and clear of all liens, encumbrances and security interests created by Seller. Buyer accepts the transfer and conveyance of the right, title and interest of Seller in and to the FF&E and the Manufacturer's Warranties, subject to the provisions contained herein. Buyer accepts the FF&E in its currently existing "**AS-IS**", "**WHERE-IS**" condition.

3. Inspection of the FF&E. Buyer has inspected the FF&E and determined that it is acceptable to Buyer. Seller has not made, and shall not be bound by, any statements, agreement, or representations regarding the FF&E not specifically set forth herein.

4. NO WARRANTY FOR MERCHANTABILITY AND FITNESS. BUYER AGREES THAT SELLER MAKES NO WARRANTIES, EXPRESSED OR IMPLIED AND ALL WARRANTIES OF ANY KIND, INCLUDING ANY EXPRESSED OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE OR CONDITION OF SAME, ARE HEREBY EXCLUDED BOTH AS TO THE FF&E AND AS TO MAINTENANCE OR REPAIR WORK PERFORMED BY SELLER, IF ANY, ON THE FF&E. BUYER HEREBY ACCEPTS THE FF&E ON AN "**AS-IS**" "**WHERE-IS**" BASIS WITH ALL FAULTS. IT IS EXPRESSLY AGREED THAT SELLER SHALL HAVE NO RESPONSIBILITY TO REPAIR, MAINTAIN, REPLACE, OR OTHERWISE CARE FOR THE FF&E ON AND AFTER THE DATE HEREOF.

SELLER AND BUYER AGREE THAT THE DISCLAIMERS OF WARRANTIES AS CONTAINED IN THIS PARAGRAPH ARE CONSPICUOUS.

5. Entire Agreement. This Agreement constitutes the entire agreement between Seller and Buyer regarding the subject matter hereof and supersedes all oral statements and prior writings relating thereto. Except to the extent expressly set forth in this Agreement, no representations, warranties, or agreements have been made by Seller or Buyer with respect to this Agreement or the obligations of Seller or Buyer in connection therewith.

6. Severability. If any provisions of this Agreement shall be held to be invalid, void or unenforceable, the remaining provisions hereof shall not be affected or impaired, and such remaining provisions shall remain in full force and effect.

7. Voluntary Agreement. The parties hereto, and each of them, further represent and declare that they have carefully read this Agreement and know the contents thereof and that they sign the same freely and voluntarily. This Agreement and each provision of this Agreement was negotiated by the parties and therefore, neither this Agreement nor any provision of this Agreement shall be interpreted for or against any party on the basis that such party or its attorney drafted the Agreement or provision in question.

8. Successor and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, representatives, successors and assigns.

9. Counterparts. This Agreement may be executed in counterparts, all of which executed counterparts shall together constitute a single document. Signature pages may be detached from the counterparts and attached to a single copy of this document to physically form one document.

[*Signatures follow on next page*]

IN WITNESS WHEREOF, Seller and Buyer have executed this Agreement as of the date first set forth above.

"**SELLER**"

By: _____

Name: _____

Its: _____

"**BUYER**"

By: _____

Name: _____

Its: _____

EXHIBIT E

MASTER LEASE

OFFICE/LABORATORY LEASE

BETWEEN

EMERY STATION WEST, LLC (LANDLORD)

AND

DYNAVAX TECHNOLOGIES CORPORATION (TENANT)

EmeryStation West
7Emeryville, California

ARTICLE 1

BASIC LEASE PROVISIONS

1.1 BASIC LEASE PROVISIONS

In the event of any conflict between these Basic Lease Provisions and any other provisions in the Lease (as hereinafter defined), such other Lease provision shall control.

(1) BUILDING AND ADDRESS:

5959 Horton Street
Emeryville, California 94608

(2) LANDLORD AND ADDRESS:

Emery Station West, LLC
1120 Nye Street, Suite 400
San Rafael, California 94901

Notices to Landlord shall be addressed:

Emery Station West, LLC
c/o Wareham Property Group
1120 Nye Street, Suite 400
San Rafael, California 94901

With a copy to:

Shartsis Friese LLP
One Maritime Plaza, 18th Floor
San Francisco, California 94901
Attention: David H. Kremer, Esq.

(3) TENANT AND CURRENT ADDRESS:

Name: Dynavax Technologies Corporation, a Delaware corporation

Federal Tax Identification Number: 33-0728374

Tenant shall promptly notify Landlord of any change in the foregoing items.

Notices to Tenant shall be addressed:

Prior to the Commencement Date:

2929 Seventh Street, Suite 100
Berkeley, California 94710

Attention: Michael Ostrach, Senior Vice President, Chief Financial Officer and Chief Business Officer

On and after the Commencement Date:

At the Premises
Attention: Michael Ostrach, Senior Vice President, Chief Financial Officer and Chief Business Officer

(4) DATE OF LEASE: September 17,2018

(5) LEASE TERM: Commencing on the Rent Commencement Date and continuing through the last day of the one hundred forty-fourth (144th) full calendar month following the Rent Commencement Date; subject to the options set forth in Section 2.6 below.

(6) COMMENCEMENT DATE: The date which Landlord delivers possession of the Premises to Tenant with the Landlord Work Substantially Complete to allow Tenant to commence construction of the Tenant Work.

(7) PROJECTED COMMENCEMENT DATE: September 20, 2018

(8) RENT COMMENCEMENT DATE: The earlier to occur of: a) Tenant's commencement of its business operations at the Premises, and b) April 1, 2019.

(9) EXPIRATION DATE: The last day of the one hundred forty-fourth (144th) full calendar month following the Rent Commencement Date.

(10) MONTHLY BASE RENT: An amount determined by multiplying the Rentable Area of the Premises (as the same may exist from time) by the Applicable Monthly Base Rate. As used herein, the "Applicable Monthly Base Rate" shall be an amount equal to Four Dollars and Seventy-Five Cents ($4.75) for the twelve (12) month period following the Rent Commencement Date (which twelve (12) month period shall include any partial calendar month following the Commencement Date if the Commencement Date is other than the first (1st) day of a calendar month), which amount shall increase by a compounded three percent (3%) on each annual anniversary thereafter.

(11) RENTABLE AREA: 75,662 square feet.

(12) TENANT IMPROVEMENT ALLOWANCE: Notwithstanding anything in this Lease to the contrary. Landlord shall provide Tenant a tenant improvement allowance to be utilized to pay for Tenant Improvement Costs (as such are defined in the work letter attached to this Lease as Exhibit B (the "Workletter")), in the amount of up to $8,322,820.00, calculated to be equal to one hundred-ten dollars ($ 110.00) per rentable square foot of Premises (the "Tenant Improvement Allowance"). Provided that no Default under the Lease has occurred and is continuing with respect to Tenant, the Tenant Improvement Allowance shall be drawn down pursuant to the terms of the Workletter.

(13) SECURITY DEPOSIT: $1,437,578.00, subject to reduction at the end of the sixth (6th) full year of the Lease Term, as more specifically defined in Article 5 hereof.

(14) PREMISES: The leasable area located on the sixth (6th) and seventh (7th) floors of the Building, as outlined on Exhibit A hereto (such portion of the Building collectively hereafter the "Premises"),

(15) TENANT'S USE OF PREMISES: Office, laboratory, biotechnology research and development, ancillary uses thereto and other related legal uses, subject to any and all applicable government approvals (the "Permitted Use"). Any other uses shall be subject to Landlord's approval which shall not be unreasonably withheld.

(16) PARKING: Rights to park at the parking garage located at 6100 Horton Street (the "Garage") or at such other location(s) in the vicinity of the Project designated by Landlord or Landlord's parking operator from time to time, on an unreserved basis, up to one hundred fifty-one (151) cars, calculated using a ratio of two (2) unreserved parking rights for each 1,000 square feet of Rentable Area of the Premises. The current parking charge is $145. In addition, Tenant shall have the right to use, on an unreserved basis in common with other tenants and Building users, the secured bicycle parking area and charging stations for electric cars inside the Garage.

(17) BROKERS:

Landlord's Broker: Kidder Mathews

Tenant's Broker: Scott Stone (CRESA Partners) and Mark Moser (Savills Studley)

1.2 ENUMERATION OF EXHIBITS, SCHEDULES AND RIDER

The exhibits, schedules and rider set forth below and attached to this Lease are incorporated in this Lease by this reference:

EXHIBIT A	Outline of the Premises
EXHIBIT B	Workletter Agreement
EXHIBIT B-1	Applicable Green Building Standards
EXHIBIT B-2	Landlord Work / Warm Shell Description
EXHIBIT C-1	Laboratory Rules and Regulations
EXHIBIT C-2	Rules and Regulations
RIDER 1	Rent Commencement Date Agreement
SCHEDULE 1	Superior Rights
SCHEDULE 2	Special Superior Rights

1.3 DEFINITIONS

For purposes hereof, in addition to terms defined elsewhere in this Lease, the following terms shall have the following meanings:

AFFILIATE: Any corporation or other business entity that is currently owned or controlled by, owns or controls, or is under common ownership or control with Tenant or Landlord, as the case may be. The term "control" means (i) ownership or voting control, directly or indirectly, of 50% or more of the beneficial ownership interest of the entity in question, or (ii) the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such entity, whether through the ability to exercise voting power by contract or otherwise.

BUILDING: The building located at the address specified in Section 1.1(1). The Building may include office, laboratory, medical, retail and other uses.

CABLE: As defined in Section 8.2.

COMMENCEMENT DATE: The date specified in Section 1.1(6).

COMMON AREAS: All areas of the Project made available by Landlord from time to time for the general common use or benefit of the tenants of the Building, and their employees and invitees, or the public, as such areas currently exist and as they may be changed from time to time.

DECORATION: Tenant Alterations which do not require a building permit, are not visible from outside of the Premises, and which do not involve any changes to the structural elements of the Building, or any of the Building's systems, including its electrical, mechanical, plumbing, security, heating, ventilating, air-conditioning, communication, and fire and life safety systems.

DEFAULT: As defined in Section 11.1.

DEFAULT RATE: Two (2) percentage points above the rate then most recently announced by Bank of America N.T. & S.A. at its San Francisco main office as its base lending reference rate, from time to time announced, but in no event higher than the maximum rate permitted by Law.

EXPIRATION DATE: The date specified in Section 1.1(9), as may be extended in accordance with Section 2.6.

FORCE MAJEURE: Any accident, casualty, act of God, war or civil commotion, strike or labor troubles, or any cause whatsoever beyond the reasonable control of Landlord or Tenant, including water shortages, energy shortages or governmental preemption in connection with an act of God, a national emergency, or by reason of Law, or by reason of the conditions of supply and demand which have been or are affected by act of God, war or other emergency; in no event, however, shall any Force Majeure event excuse or delay Tenant's obligation to timely pay all Rent owing under this Lease.

GREEN BUILDING STANDARDS: One or more of the following: the U.S. EPA's Energy Star® Portfolio Manager, the Green Building Initiative's Green Globes™ building rating system, the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) building rating system, the ASHRAE Building Energy Quotient (BEQ), the Global Real Estate Sustainability Benchmark (GRESB), or other standard for high performance buildings adopted by Landlord with respect to the Building or the Project, as the same may be revised from time to time. The Green Building Standards applicable to the Tenant Improvements are set forth on Exhibit B-l to this Lease.

INDEMNITEES: Collectively, Landlord, any Mortgagee or ground lessor of the Property, the property manager and the leasing manager for the Property and their respective partners, members, directors, officers, agents and employees.

LAND: The parcel(s) of real estate on which the Building and Project are located.

LANDLORD WORK: The construction or installation of the improvements to the Premises, to be furnished by Landlord, as specifically described in the Workletter.

LAWS OR LAW: All laws, ordinances, rules, regulations, other requirements, orders, rulings or decisions adopted or made by any governmental body, agency, department or judicial authority having jurisdiction over the Property, the Premises or Tenant's activities at the Premises and any covenants, conditions or restrictions of record which affect the Property.

LEASE: This instrument and all exhibits, schedules and any riders attached hereto, as may be amended from time to time.

LEASE YEAR: The twelve month period beginning on the first day of the first month following the Commencement Date (unless the Commencement Date is the first day of a calendar month in which case beginning on the Commencement Date), and each subsequent twelve month, or shorter, period until the Expiration Date.

LEASEHOLD IMPROVEMENTS: As defined in Section 12.1.

MONTHLY BASE RENT: The monthly rent specified in Section 1.1(10).

MORTGAGEE: Any holder of a mortgage, deed of trust or other security instrument encumbering the Property.

NATIONAL HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day and other holidays reasonably recognized by the Landlord and the janitorial and other unions servicing the Building in accordance with their contracts.

OPERATING EXPENSES: All costs, expenses and disbursements of every kind and nature which Landlord shall pay or become obligated to pay in connection with the ownership, management, operation, maintenance, replacement and repair of the Property, including, without limitation, property management fees not to exceed 3.5% of gross revenues; costs and expenses of capital repairs, replacements and improvements which shall be amortized over a period reasonably determined by Landlord pursuant to sound accounting principles consistently applied together with interest thereon at a rate reasonably determined by Landlord (not to exceed the Default Rate) which, in the case of capital improvements, are (A) reasonably expected by Landlord to produce

an actual net reduction in operating charges or energy consumption or effect other economies in the operation or maintenance of the Project (except in the case of capital replacements, which shall not require this test), or (B) required under any governmental law or regulation not in effect as of the Commencement Date (such capital repairs, replacements and improvements collectively, "Permitted Capital Expenditures"); an equitable allocation of management office expenses (including, without limitation, market office rent, supplies, equipment, salaries, wages, bonuses and other compensation relating to employees of Landlord or its agents engaged in the management, operation, repair, or maintenance of the EmeryStation Campus); and, if applicable, the cost of operating any shared campus amenities, including but not limited to a fitness center and/or conference center, that are available for use by Tenant (which amenities may be located in the Building or in other buildings in the EmeryStation Campus owned by Landlord or affiliates of Landlord), as reasonably determined by Landlord. Operating Expenses shall not include, (i) costs of alterations of the premises of tenants of the Project, including all costs relating to preparing rental space for tenants, (ii) costs of goods or services to the extent billed directly to other tenants of the Project (other than as reimbursement of general operating expenses), (iii) depreciation charges, (iv) interest, fees and principal payments on loans (except for interest charges for Permitted Capital Expenditures as provided for above, which Landlord may include in Operating Expenses), (v) ground rental payments, (vi) real estate brokerage and leasing commissions, (vii) advertising and marketing expenses, (viii) costs to the extent Landlord has been reimbursed for the same by insurance proceeds, condemnation awards, third party warranties or other third parties (other than tenant's reimbursement of general operating expenses), (ix) expenses incurred in negotiating leases of tenants in the Project or enforcing lease obligations of tenants in the Project, (x) Landlord's general corporate overhead, (xi) costs directly incurred in connection with a sale, financing, refinancing or transfer of all or any portion of the Project, (xii) costs incurred to comply with Laws relating to the removal and remediation of any Hazardous Material which were (A) in existence at the Project as of the Commencement Date or (B) not brought on to the Premises by Tenant or (C) migrated thereto through air, water or soil through no fault of Tenant; provided, however, that any costs incurred in the cleanup or remediation of *de minimis* amounts of Hazardous Materials customarily used in office buildings or used to operate motor vehicles and customarily found in parking facilities shall be included as Operating Expenses, (xiii) original construction costs or original capital expenditures for expansion of the Project, (xiv) costs for employees not dedicated full time to the Project unless such costs are reasonably prorated to reflect time spent on the Project, (xv) legal costs for disputes with tenants, (xvi) capital improvements, capital replacements, capital repairs, capital equipment and tools that are not Permitted Capital Expenditures, (xvii) reserves, (xviii) expenses for any item or service which is not provided to Tenant but is provided for the sole use or benefit of another tenant, (xix) interest or penalties attributable to late payment by Landlord (provided that such late payment is not caused by Tenant), (xx) cost of correcting any building code or curing violations of other applicable law which existed prior to the Commencement Date, and (xxi) any item that, if included, in Operating Expenses, would involve a double collection for such item by Landlord. In the event there exists a conflict as to an expense that is specified to be included in Operating Expenses and is also specified to be excluded from Operating Expenses within the above list, the exclusions listed above shall prevail and the expenses shall be deemed excluded. If any Operating Expense, though paid in one year, relates to more than one calendar year, at the option of Landlord such expense may be proportionately allocated among such related calendar years; provided that only those periods falling within the Term of the Lease shall be allocated to Tenant. Landlord agrees that Landlord

will not collect or be entitled to collect Operating Expenses from Tenant in an amount in excess of Tenant's Share of one hundred percent (100%) of the Operating Expenses attributable to the Project. In addition, Operating Expenses shall be reduced by all cash discounts, trade discounts or quantity discounts received by Landlord or Landlord's managing agent in the purchase of any goods, utilities or services in connection with the prudent operation of the Building. Operating Expenses for the Building that are not, in Landlord's reasonable discretion, allocable solely to either the office, laboratory, or retail portion of the Building shall be equitably allocated by Landlord between/amongst such uses.

PREMISES: The space located in the Building described in Section 1.1(14) and as outlined on Exhibit A attached hereto.

PROJECT or PROPERTY: The Project consists of the mixed-use building located at the street address specified in Section 1.1(1) in Emeryville, California, and associated surface and garage parking as designated by Landlord from time to time, landscaping and improvements, together with the Land, any associated interests in real property, and the personal property, fixtures, machinery, equipment, systems and apparatus located in or used in conjunction with any of the foregoing. A portion of the parking garage located at 6100 Horton Street shall be designated by Landlord as part of the Project. The Project may also be referred to as the Property.

PROJECT'S SUSTAINABILITY PRACTICES: The operations and maintenance practices for the Building, whether incorporated into the Building's Rules and Regulations, construction rules and regulations, separate written sustainability policies or otherwise reasonably implemented by Landlord with respect to the Building or the Project, as the same may be revised from time to time, addressing, among other things: energy efficiency; energy measurement and reporting; water usage; recycling, composting, and waste management; indoor air quality; and chemical use.

PROJECTED COMMENCEMENT DATE: The date specified in Section 1.1(7).

REAL PROPERTY: The Property excluding any personal property.

RENT: Collectively, Monthly Base Rent, Rent Adjustments and Rent Adjustment Deposits, and all other charges, payments, late fees or other amounts required to be paid by Tenant under this Lease.

RENT ADJUSTMENT: Any amounts owed by Tenant for payment of Operating Expenses and/or Taxes. The Rent Adjustments shall be determined and paid as provided in Article 4.

RENT ADJUSTMENT DEPOSIT: An amount equal to Landlord's estimate of the Rent Adjustment attributable to each month of the applicable calendar year (or partial calendar year) during the Term. On or before the Commencement Date and with each Landlord's Statement (defined in Article 4), Landlord may estimate and notify Tenant in writing of its estimate of Tenant's Share of the Operating Expenses and of Taxes for such calendar year (or partial calendar year). Prior to the first determination by Landlord of the amount of Operating Expenses and of Taxes for the first calendar year (or partial calendar year), Landlord may estimate such amounts in the foregoing calculation. Landlord shall have the right from time to time during any calendar year to provide a new or revised estimate of Operating Expenses and/or Taxes and to notify Tenant

in writing thereof, of corresponding adjustments in Tenant's Rent Adjustment Deposit payable over the remainder of such year, and of the amount or revised amount due allocable to months preceding such change. The last estimate by Landlord shall remain in effect as the applicable Rent Adjustment Deposit unless and until Landlord notifies Tenant in writing of a change, which notice may be given by Landlord from time to time during each year throughout the Term.

RENTABLE AREA OF THE PREMISES: The amount of square footage stipulated and/or determined, from time to time, pursuant to Section 1.1(11).

STANDARD OPERATING HOURS: Monday through Friday from 8:00 A.M. to 6:00 P.M. and Saturdays from 9:00 A.M. to 1:00 P.M., excluding National Holidays.

SUBSTANTIALLY COMPLETE or SUBSTANTIAL COMPLETION: The completion of the Landlord Work in good and workmanlike manner, in material compliance with all applicable Laws and the plans and specifications, except for minor insubstantial details of construction, decoration or mechanical adjustments which remain to be done which do not materially and substantially interfere with Tenant's construction of the Tenant Work in the Premises. Substantial Completion shall be deemed to have occurred notwithstanding a requirement to complete "punchlist" or similar minor corrective work.

TAXES: All federal, state and local governmental taxes, assessments, license fees and charges of every kind or nature, whether general, special, ordinary or extraordinary, which Landlord shall pay or become obligated to pay because of or in connection with the ownership, leasing, management, control, sale, transfer or operation of the Property or any of its components (including any personal property used in connection therewith) or Landlord's business of owning and operating the Property, which may also include any rental, revenue, general gross receipts or similar taxes levied in lieu of or in addition to general real and/or personal property taxes. For purposes hereof, Taxes for any year shall be Taxes which are assessed for any period of such year, whether or not such Taxes are billed and payable in a subsequent calendar year. There shall be included in Taxes for any year the amount of all fees, costs and expenses (including reasonable attorneys' fees) paid by Landlord during such year in seeking or obtaining any refund or reduction of Taxes. Taxes for any year shall be reduced by the net amount of any tax refund received by Landlord attributable to such year. If a special assessment payable in installments is levied against any part of the Property, Taxes for any year shall include only the installment of such assessment and any interest payable or paid during such year. Taxes shall not include any federal or state inheritance, general income, transfer, gift or estate taxes, except that if a change occurs in the method of taxation resulting in whole or in part in the substitution of any such taxes, or any other assessment, for any Taxes as above defined, such substituted taxes or assessments shall be included in the Taxes. Tenant and Landlord acknowledge that Proposition 13 was adopted by the voters of the State of California in the June, 1978 election and that assessments, taxes, fees, levies and charges may be imposed by governmental agencies for such purposes as fire protection, street, sidewalk, road, utility construction and maintenance, refuse removal and for other governmental services which may formerly have been provided without charge to property owners or occupants. It is the intention of the parties that all new and increased assessments, taxes, fees, levies and charges due to any cause whatsoever are to be included within the definition of real property taxes for purposes of this Lease.

TENANT ADDITIONS: Collectively, Tenant Work and Tenant Alterations.

TENANT ALTERATIONS: Any alterations, improvements, additions, installations or construction in or to the Premises or any Building Systems serving the Premises (excluding Landlord Work and Tenant Work); and any supplementary air-conditioning systems installed by Landlord or by Tenant at Landlord's request pursuant to Section 6.1(b).

TENANT WORK: All work installed or furnished to the Premises by Tenant in accordance with the Workletter.

TENANT'S SHARE: The percentage that represents the ratio of the Rentable Area of the Premises to the Rentable Area of the Building, as determined by Landlord from time to time, and which as of the Date of Lease is 28.94%. Tenant acknowledges that the Rentable Area of the Premises or Building may change from re-measurement or otherwise during the Term, or as a result of Tenant leasing additional space within the Building or a physical change to the size of the Premises or Building (provided, however, that, the Base Rent payable hereunder shall not be changed as a consequence of a re-measurement of the Building and/or the Premises unless the Premises are physically expanded). Notwithstanding anything herein to the contrary. Landlord may equitably adjust Tenant's Share for all or part of any item of expense or cost reimbursable by Tenant that relates to a repair, replacement, or service that benefits only the Premises or only a portion of the Building and/or the Project or that varies with the occupancy of the Building and/or the Project, provided such adjustment is done in accordance with sound real estate accounting and management principles, consistently applied.

TERM: The initial term of this Lease commencing on the Commencement Date and expiring on the Expiration Date, including the Renewal Term, if Tenant properly exercises the Renewal Option in accordance with Section 2.6.

TERMINATION DATE: The Expiration Date or such earlier date as this Lease terminates or Tenant's right to possession of the Premises terminates.

WORKLETTER: The Agreement regarding the manner of completion of Landlord Work and Tenant Work set forth on Exhibit B attached hereto.

ARTICLE 2

PREMISES, TERM, FAILURE TO GIVE POSSESSION, AND PARKING

2.1 LEASE OF PREMISES

(a) Landlord hereby leases to Tenant, and Tenant hereby leases from Landlord, the Premises for the Term and upon the terms, covenants and conditions provided in this Lease.

(b) The parties acknowledge and agree that the Rentable Area set forth in this Lease has been conclusively determined and is deemed final for the purposes of this Lease and that prior to the Date of Lease, Tenant had the right to cause its Architect to verify and confirm the Rentable Area of the Premises.

2.2 TERM

(a) The Commencement Date shall be the date which Landlord delivers possession of the Premises to Tenant with the Landlord Work Substantially Complete to allow Tenant to commence construction of the Tenant Work.

(b) Within thirty (30) days following the Rent Commencement Date, Landlord and Tenant shall enter into an agreement (the form of which is attached hereto as Rider 1) confirming the Rent Commencement Date and the Expiration Date. If Tenant fails to enter into such agreement, then the Rent Commencement Date and the Expiration Date shall be the date designated by Landlord in such agreement.

2.3 DELIVERY OF POSSESSION

Landlord shall use commercially reasonable efforts to tender possession of the Premises to Tenant by the later of the Date of Lease or the Projected Commencement Date with the Landlord Work Substantially Complete. Tenant agrees that if Landlord shall be unable to tender possession of the Premises with the Landlord Work Substantially Complete by the Projected Commencement Date for any reason, then this Lease shall not be void or voidable, nor shall Landlord be subject to any liability therefor. Landlord and Tenant hereby acknowledge and agree that Tenant's access/entry to the Premises prior to Rent Commencement Date shall be subject to all the provisions of this Lease (including payment of any utilities used in the Premises) other than the payment of Monthly Base Rent and Tenant's Share of Operating Expenses, including, without limitation. Tenant's compliance with the insurance and indemnity requirements of this Lease. In connection with any such early entry, Tenant agrees that it shall not in any way unreasonably interfere with the progress of any other work being conducted in the Building, either by Landlord and/or Landlord's tenants. Should such early entry unreasonably interfere with the progress of other work, in Landlord's reasonable judgment, then Landlord may demand that Tenant forthwith cease the activities that are causing such interference or vacate the Premises as necessary until such interference would not occur, and Tenant shall immediately comply with such demand.

2.4 CONDITION OF PREMISES

Landlord represents and warrants that, as of the Commencement Date, the Building's structural components and electrical and plumbing systems, including, without limitation, heating, ventilation and air-conditioning (collectively, "Building Systems"), are in good condition and repair. No later than one hundred twenty (120) days after the Commencement Date, Tenant shall notify Landlord in writing of any defects in the Landlord Work and/or the Building Systems (other than defects caused by Tenant after the Commencement Date) that are claimed by Tenant or in the materials or workmanship furnished by Landlord in completing the Landlord Work. Except for defects stated in such notices, Tenant shall be conclusively deemed to have accepted the Premises "AS IS" in the condition existing on the Commencement Date. Landlord shall proceed diligently to correct the defects stated in such notices unless Landlord disputes in good faith the existence of any such defects. In the event of any dispute as to the existence of any such defects, the reasonable and good faith decision of Landlord's architect shall be final and binding on the parties. No agreement of Landlord to alter, remodel, decorate, clean or improve the Premises or the Real Property and no representation regarding the condition of the Premises or the Real Property has been made by or on behalf of Landlord to Tenant, except as may be specifically stated in this Lease or in the Workletter.

2.5 PARKING

During the Term, Tenant shall have the right to park up to one hundred fifty-one (151) cars of Tenant and its employees ("Tenant's Parking"), such quantity calculated to be two (2) vehicle rights for every one thousand (1,000) rentable square feet of Premises. Subject to the aforementioned maximum. Tenant shall have the right to set the number of Tenant's Parking as of the Commencement Date and thereafter to adjust the amount of Tenant's Parking not more often than monthly upon thirty (30) days' advance written notice to Landlord. Initially, Tenant's Parking shall be located in the Garage owned by Landlord and located at 6100 Horton Street and shall be leased by Tenant at then quoted rates. In the event Tenant fails at any time to pay the full amount of any such parking charges beyond all applicable notice and cure periods, then Tenant's parking rights shall be reduced to the extent of Tenant's failure to pay for any such parking, and Tenant shall be in Default hereunder. The locations and type of parking shall be designated by Landlord or Landlord's parking operator from time to time; provided, however, that any portion of Tenant's Parking that is not provided in the garage shall be located at other location(s) in the vicinity of the Project. Tenant acknowledges and agrees that the parking stalls serving the Project may include valet parking and a mixture of stalls for compact vehicles as well as full-size passenger automobiles, and that Tenant shall not use parking stalls for vehicles larger than the striped size of the parking stalls nor shall Tenant park cars overnight. All vehicles utilizing Tenant's parking privileges shall prominently display identification stickers or other markers, and/or have passes or keycards for ingress and egress, as may be required and provided by Landlord or its parking operator from time to time. To the extent provided to Tenant in writing, Tenant shall comply with any and all non-discriminatory parking rules and regulations from time to time established by Landlord or Landlord's parking operator, including a requirement that Tenant pay to Landlord or Landlord's parking operator a charge for loss and replacement of passes, keycards, identification stickers or markers, and for any and all loss or other damage caused by persons or vehicles related to use of Tenant's parking privileges. Tenant shall not allow any vehicles using Tenant's parking privileges to be parked, loaded or unloaded except in accordance with this Section, including in the areas and in the manner reasonably designated by Landlord or its parking operator for such activities. If any vehicle is using the parking or loading areas contrary to any provision of this Section, Landlord or its parking operator shall have the right, in addition to all other rights and remedies of Landlord under this Lease, to remove or tow away the vehicle without prior notice to Tenant, and the cost thereof shall be paid to Landlord within ten (10) days after notice from Landlord to Tenant.

2.6 RENEWAL OPTIONS

(a) Tenant shall have the option to renew this Lease ("Renewal Option") with respect to the entirety of the Premises for two (2) consecutive additional terms of five (5) years each (each a "Renewal Term"), commencing upon expiration of the initial Term or the first Renewal Term, as applicable. Each Renewal Option must be exercised, if at all, by written notice given by Tenant to Landlord not earlier than eighteen (18) months and not later than twelve (12) months prior to commencement of the Renewal Term. If Tenant properly exercises a Renewal Option, then references in this Lease to the Term shall be deemed to include the Renewal Term. Tenant's rights

under this Section 2.6 shall, at the option of Landlord, be null and void and Tenant shall have no right to renew this Lease if on the date Tenant exercises a Renewal Option or on the date immediately preceding the commencement date of a Renewal Term a Default beyond the applicable notice and cure period shall have occurred and be continuing hereunder; provided, however, if Tenant cures such Default within the applicable periods provided under this Lease, then the Renewal Option shall be reinstated.

(b) If Tenant properly exercises a Renewal Option, then during such Renewal Term all of the terms and conditions set forth in this Lease as applicable to the Premises during the initial Term shall apply during the Renewal Term, including, without limitation, the obligation to pay Rent Adjustments, except that (i) Tenant shall accept the Premises in their then "as-is" state and condition, and Landlord shall have no obligation to make or pay for any improvements to the Premises, and (ii) during the Renewal Term the Monthly Base Rent payable by Tenant shall be the Fair Market Value during the Renewal Term as hereinafter set forth, except that in no event shall Monthly Base Rent during a Renewal Term be less than one hundred percent (100%) of the Monthly Base Rent in effect during the month immediately preceding the Renewal Term.

(c) For purposes of this Section, the term "Fair Market Value" shall mean the base rental rate, including periodic rent adjustment, for space comparable in size, location and quality of the Premises under primary lease (and not sublease) to new or renewing tenants, for a comparable term with base rent adjusted for the relative tenant improvement allowance, if applicable, and taking into consideration such amenities as existing improvements and non-removable fixtures in place at the time of such renewal (but not including the value of any Tenant Alterations made to the Premises following the Rent Commencement Date and the completion of Tenant's initial build-out), view, floor on which the Premises is situated and the like, situated in comparable science/laboratory buildings in Emeryville and Berkeley.

(d) If Tenant properly exercises a Renewal Option, then Landlord, by notice to Tenant not later than six (6) months prior to commencement of the Renewal Term, shall indicate Landlord's determination of the Fair Market Value. Tenant, within fifteen (15) days after the date on which Landlord provides such notice of the Fair Market Value shall either (i) give Landlord final binding written notice ("Binding Notice") of Tenant's acceptance of Landlord's determination of the Fair Market Value, or (ii) if Tenant disagrees with Landlords' determination, provide Landlord with written notice of Tenant's election to submit the Fair Market Value to binding arbitration (the "Arbitration Notice"). If Tenant fails to provide Landlord with either a Binding Notice or Arbitration Notice within such fifteen (15) day period, Landlord shall send Tenant a second written notice specifying the Fair Market Rent ("Second FMV Notice"), and such Second FMV Notice shall include the following: **"FAILURE TO ACCEPT SAID FAIR MARKET RENT AMOUNT IN WRITING OR DISPUTE SUCH AMOUNT BY SUBMITTING TO ARBITRATION IN ACCORDANCE WITH SECTION 2.6(d) OF THIS LEASE WITHIN TEN (10) DAYS SHALL BE DEEMED TENANT'S AGREEMENT TO PAY SUCH AMOUNT DURING THE RENEWAL TERM."** If Tenant fails to provide Landlord with either a Binding Notice or Arbitration Notice within ten (10) days after receiving the Second FMV Notice, Tenant shall have been deemed to have given the Binding Notice. If Tenant provides or is deemed to have provided Landlord with a Binding Notice, Landlord and Tenant shall enter into the Renewal Amendment (as defined below) upon the terms and conditions set forth herein.

(e) If the parties are unable to agree upon the Fair Market Value for the Premises within ten (10) business days after Landlord's receipt of the Arbitration Notice, Fair Market Value as of commencement of the Renewal Term shall be determined as follows:

(1) Within thirty (30) days after the date Tenant delivers the Arbitration Notice, Tenant, at its sole expense, shall obtain and deliver in writing to Landlord a determination of the Fair Market Value for the Premises for a term equal to the Renewal Term from an independent broker or appraiser ("Tenant's broker") licensed in the State of California and engaged in the science/laboratory markets in Emeryville and Berkeley, California, for at least the immediately preceding five (5) years who has not been engaged by either Landlord or Tenant in the last five (5) years. If Landlord accepts such determination, Landlord shall provide written notice thereof within ten (10) days after Landlord's receipt of such determination and the Base Rent for the Renewal Term shall be adjusted to an amount equal to the Fair Market Value determined by Tenant's broker. Landlord shall be deemed to have rejected Tenant's determination if Landlord fails to respond within the ten (10) day period.

(2) If Landlord provides notice that it rejects, or is deemed to have rejected, such determination, within twenty (20) days after receipt of the determination of Tenant's broker, Landlord shall designate a broker or appraiser ("Landlord's broker") licensed in the State of California and possessing the qualifications set forth in (1) above. Landlord's broker and Tenant's broker shall name a third broker, similarly qualified, within five (5) days after the appointment of Landlord's broker ("Neutral Broker").

(3) The Neutral Broker shall determine the Fair Market Value for the Premises as of the commencement of the Renewal Term within fifteen (15) days after the appointment of such Neutral Broker by choosing the determination of the Landlord's broker that was set forth in the initial notice delivered by Landlord pursuant to Section 2.6(d) or the Tenant's broker that was delivered pursuant to Section 2.6(e)(1) which is closest to its own determination of Fair Market Value. The decision of the Neutral Broker shall be binding on Landlord and Tenant.

(f) Landlord shall pay the costs and fees of Landlord's broker in connection with any determination hereunder, and Tenant shall pay the costs and fees of Tenant's broker in connection with such determination. The costs and fees of the Neutral Broker shall be paid one-half by Landlord and one-half by Tenant. Landlord shall have no obligation to pay a fee or commission to any broker retained by Tenant in connection with Tenant's exercise of a Renewal Option.

(g) If the amount of the Fair Market Value has not been determined pursuant to this Section 2.6 as of the commencement of the Renewal Term, then Tenant shall continue to pay the Base Rent in effect during the last month of the initial Term until the amount of the Fair Market Value is determined. When such determination is made, Tenant shall pay any deficiency to Landlord upon demand.

(h) If Tenant is entitled to and properly exercises its Renewal Option, upon determination of Fair Market Value pursuant to this Section 2,6, Landlord shall prepare an amendment (the "Renewal Amendment") to reflect changes in the Base Rent, Term, Expiration Date and other appropriate terms. The Renewal Amendment shall be sent to Tenant within a reasonable time after determination of Fair Market Value and, provided the same is accurate, Tenant shall execute and return the Renewal Amendment to Landlord within ten (10) days after Tenant's receipt of same, but an otherwise valid exercise of the Renewal Option shall be fully effective whether or not the Renewal Amendment is executed.

2.7 RIGHT OF FIRST OFFER: ADJACENT FLOOR

Subject to the rights of other parties existing as of the Date of Lease ("Superior Rights") as set forth in Schedule 1 attached hereto, commencing upon the Rent Commencement Date and continuing throughout the Term (including the Renewal Term), Tenant shall have the right of first offer ("Right of First Offer", or "ROFO") with respect to no more than one (1) adjacent full floor in the Building which becomes Available for Lease (described below) (the "Offering Space"). Landlord represents and warrants that all Superior Rights are set forth in Schedule 1 attached hereto and incorporated herein. For the avoidance of doubt, Landlord shall have the right to lease any space in the Building at any time prior to the Rent Commencement Date on such terms as Landlord may determine in its sole and absolute discretion regardless of whether such space would otherwise qualify as Special Offering Space if it were Available for Lease as of the Rent Commencement Date. Offering Space shall be deemed to be "Available for Lease" as follows: (i) with respect to any Offering Space that has been leased to a third party tenant prior to the Rent Commencement Date hereunder or that at any time and from time to time thereafter is under lease to a third party tenant, such Offering Space shall be deemed to be Available for Lease when Landlord has determined that such third party will not extend or renew the term of its lease for the Offering Space (whether or not pursuant to the terms of a renewal option provided for in its lease), no occupant has a Superior Right which is subject to exercise and Landlord is ready to market such space for lease, or (ii) with respect to any Offering Space that is not under lease, such Offering Space shall be deemed to be Available for Lease when Landlord has determined that no occupant has a Superior Right which is subject to exercise and Landlord is ready to market such space for lease. After Landlord has determined that any portion of Offering Space is Available for Lease, Landlord shall advise Tenant (the "ROFO Notice") of the terms under which Landlord is prepared to lease such portion of the Offering Space to Tenant, including, without limitation, description of the space so offered to Tenant and material economic terms and conditions applicable to Tenant's lease of such space (collectively, "First Offer Economic Terms"). Tenant may lease such Offering Space in its entirety only, under such First Offer Economic Terms, by delivering written notice of exercise to Landlord ("ROFO Notice of Exercise") within fifteen (15) days after the date of delivery of the ROFO Notice, except that Tenant shall have no such Right of First Offer and Landlord need not provide Tenant with a ROFO Notice, if: (i) Tenant is in Default under this Lease at the time Landlord would otherwise deliver the ROFO Notice; or (ii) the Premises, or any portion thereof, is sublet (other than pursuant to a Permitted Transfer) at the time Landlord would otherwise deliver the ROFO Notice; or (iii) this Lease has been assigned (other than pursuant to a Permitted Transfer) prior to the date Landlord would otherwise deliver the ROFO Notice; or (iv) either Tenant or Permitted Transferee is not occupying at least fifty percent (50%) of the Premises on the date Landlord would otherwise deliver the ROFO Notice. If Tenant does not accept a ROFO Notice from Landlord pursuant to the above, then Landlord shall have the right to lease all or any portion of the Offering Space to any third party or parties upon such terms as Landlord and such tenant(s) may approve, in their respective sole and absolute discretion.

(a) Terms. The term for the Offering Space shall commence upon the commencement date stated in the ROFO Notice and thereupon such Offering Space shall be considered a part of the Premises, provided that all of the First Offer Economic Terms stated in the ROFO Notice shall govern Tenant's leasing of the Offering Space and only to the extent that they do not conflict with the ROFO Notice, the terms and conditions of this Lease shall apply to the Offering Space.

(b) Limitation on Right of First Offer. The rights of Tenant hereunder with respect to any portion of the Offering Space shall terminate on the earlier to occur of: (i) with respect to any portion of the Offering Space that is the subject of a ROFO Notice, Tenant's failure to exercise its Right of First Offer within the fifteen (15) day period provided in Section 2.7(a) above, and (ii) with respect to any portion of the Offering Space which would otherwise have been the subject of a ROFO Notice, the date Landlord would have provided Tenant a ROFO Notice if Tenant had not been in violation of one or more of the conditions set forth in clauses (i) through (iv) of Section 2.7(a) above. In addition, at any time that Tenant has expanded its Premises beyond 150% of the size set forth in Section 1.1(11) hereof pursuant to the above ROFO process or otherwise, Tenant shall have no further ROFO rights hereunder.

(c) Offering Amendment. If Tenant exercises its Right of First Offer, Landlord shall prepare an amendment (the "Offering Amendment") adding the Offering Space to the Premises on the First Offer Economic Terms and reflecting the changes in the Monthly Base Rent, Rentable Area of the Premises, Tenant's Share, Rent Adjustments and other appropriate terms. A copy of the Offering Amendment shall be (i) sent to Tenant within a reasonable time after receipt of the ROFO Notice of Exercise executed by Tenant, and (ii) executed by Tenant and returned to Landlord within fifteen (15) days thereafter, but an otherwise valid exercise of the Right of First Offer shall be fully effective whether or not the Offering Amendment is signed.

2.8 SPECIAL RIGHT OF FIRST OFFER

(a) In the Building: Subject to the superior rights of other parties existing as of the date of this Lease ("Special Superior Rights") as set forth in Schedule 2 attached hereto, for the period commencing January 1, 2020 and ending March 31, 2021 (the "Special ROFO Period"), Tenant shall have the right of first offer (the "Special ROFO") with respect to any suite in the Building measuring no less than twelve thousand (12,000) rentable square feet nor more than twenty-thousand (20,000) rentable square feet that becomes Available for Lease (described below) (the "Special Offering Space"). Landlord represents and warrants that all Special Superior Rights are set forth in Schedule 2 attached hereto and incorporated herein. For the avoidance of doubt. Landlord shall have the right to lease any space in the Building at any time prior to the commencement of the Special ROFO Period Special on such terms as Landlord may determine in its sole and absolute discretion regardless of whether such space might otherwise qualify as Special Offering Space if it were Available for Lease as of the first day of the Special ROFO Period. Special Offering Space shall be deemed to be "Available for Lease" as follows: (i) with respect to any Special Offering Space that has been leased to a third party tenant prior to the commencement of the Special ROFO Period (or if Landlord has entered into a letter of intent with a prospective third party for the lease of any such space prior to the commencement of the Special ROFO Period), such Special Offering Space shall be deemed to be Available for Lease when Landlord has determined that such third party (i.e., one who has entered into a lease prior to the Special ROFO Period or who has entered into a lease that was the subject of a letter of intent entered into prior to the commencement of the Special ROFO Period) will not extend or renew the term of its lease for the Special Offering Space (whether or not pursuant to the terms of a renewal option provided for

in its lease), no occupant has a Special Superior Right which is subject to exercise and Landlord is ready to market such space for lease, or (ii) with respect to any Special Offering Space that is not under lease prior to the commencement of the Special ROFO Period, such Special Offering Space shall be deemed to be Available for Lease when Landlord has determined that no occupant has a Special Superior Right which is subject to exercise and Landlord is ready to market such space for lease. If during the Special ROFO Period, Landlord has determined that any Special Offering Space is Available for Lease, Landlord shall advise Tenant (the "Special ROFO Notice") of the terms under which Landlord is prepared to lease such Special Offering Space to Tenant, including, without limitation, description of the space so offered to Tenant and material economic terms and conditions applicable to Tenant's lease of such space (collectively, "Special ROFO Economic Terms"). Tenant may lease such Special Offering Space in its entirety only, under such Special ROFO Economic Terms, by delivering written notice of exercise to Landlord ("Special ROFO Notice of Exercise") within fifteen (15) days after the date of delivery of the Special ROFO Notice, except that Tenant shall have no such Special Right of First Offer and Landlord need not provide Tenant with a Special ROFO Notice, if: (i) Tenant is in Default under this Lease at the time Landlord would otherwise deliver the Special ROFO Notice; or (ii) the Premises, or any portion thereof, is sublet (other than pursuant to a Permitted Transfer) at the time Landlord would otherwise deliver the Special ROFO Notice; or (iii) this Lease has been assigned (other than pursuant to a Permitted Transfer) prior to the date Landlord would otherwise deliver the Special ROFO Notice; or (iv) either Tenant or Permitted Transferee is not occupying all of the Premises on the date Landlord would otherwise deliver the Special ROFO Notice. If Tenant does not accept a Special ROFO Notice from Landlord pursuant to the above, then Landlord shall have the right to lease all or any portion of the Special Offering Space to any third party or parties upon such terms as Landlord and such tenant(s) may approve, in their respective sole and absolute discretion.

(i) Terms. The term for the Special Offering Space shall commence upon the commencement date stated in the Special ROFO Notice and thereupon such Special Offering Space shall be considered a part of the Premises, provided that all of the Special ROFO Economic Terms stated in the Special ROFO Notice shall govern Tenant's leasing of the Special Offering Space and only to the extent that they do not conflict with the Special ROFO Notice, the terms and conditions of this Lease shall apply to the Special Offering Space.

(ii) Limitation on Special Right of First Offer, The rights of Tenant hereunder with respect to any Special Offering Space shall terminate on the earlier to occur of: (i) with respect to any Special Offering Space that is the subject of a Special ROFO Notice, Tenant's failure to exercise its Special Right of First Offer within the fifteen (15) day period provided in Section 2.8(a) above, (ii) with respect to any Special Offering Space which would otherwise have been the subject of a Special ROFO Notice, the date Landlord would have provided Tenant a Special ROFO Notice if Tenant had not been in violation of one or more of the conditions set forth in clauses (i) and (iv) of Section 2.8(a) above, or (iii) the expiration of the Special ROFO Period. In addition, at any time that Tenant has expanded its Premises beyond the 150% of the size set forth in Section 1.1(11) hereof, or to an additional floor, pursuant to the above ROFO process outlined in Section 2.7 above or otherwise, Tenant shall have no further Special ROFO rights hereunder.

(iii) Offering Amendment. If Tenant exercises its Special Right of First Offer, Landlord shall prepare an amendment (the "Offering Amendment") adding the Special Offering Space to the Premises on the Special ROFO Economic Terms and reflecting the changes in the Monthly Base Rent, Rentable Area of the Premises, Tenant's Share, Rent Adjustments and other appropriate terms. A copy of the Offering Amendment shall be (i) sent to Tenant within a reasonable time after receipt of the Special ROFO Notice of Exercise executed by Tenant, and (ii) executed by Tenant and returned to Landlord within fifteen (15) days thereafter, but an otherwise valid exercise of the Special Right of First Offer shall be fully effective whether or not the Offering Amendment is signed.

(b) In Property Owned By Landlord Affiliates: During the Special ROFO Period, but only if (i) Landlord has not previously offered Offering Space to Tenant pursuant to Section 2.7, or Special Offering Space to Tenant pursuant to Section 2.8(a), or (ii) a Landlord Affiliate has not previously offered Affiliate Offering Space to Tenant pursuant to this Section 2.8(b), Tenant may request in writing (a "Tenant Affiliate Offering Space Request") that Landlord use commercially-reasonable efforts to cause a Landlord Affiliate that owns office and/or lab property in Emeryville, California (if any, an "Emeryville Affiliate to provide Tenant with an offer ("Affiliate Offer Right") to lease to Tenant any space owned by such an Emeryville Affiliate which measures no less than twelve thousand (12,000) rentable square feet nor more than twenty-thousand (20,000) rentable square feet and is then Available for Lease (described below) (the "Affiliate Offering Space"). Tenant's rights hereunder shall be subject to the superior rights of other parties (an "Affiliate Offer Superior Rights") in any respective Emeryville Affiliate's property or properties, which superior right(s) may be granted by any Emeryville Affiliate at any time and from time to time. For the avoidance of doubt, any Emeryville Affiliate shall have the right shall have the right to lease any space in a property it owns at any time on such terms as such Emeryville Affiliate may determine in its sole and absolute discretion regardless of whether such space might otherwise qualify as Affiliate Offering Space if it were Available for Lease at the time that Tenant delivers a Tenant Affiliate Offering Space Request. An Affiliate Offering Space shall be deemed to be "Available for Lease" if, at the time that Tenant delivers a Tenant Affiliate Offering Space Request, (i) such space is not then under lease to a third party and the Emeryville Affiliate in question is not then in negotiations with a third party for the lease thereof, (ii) no third party has an Affiliate Offer Superior Right which is subject to exercise, and (iii) the respective Emeryville Affiliate is ready to market such space for lease. If at the time Tenant delivers a Tenant Affiliate Offering Space Request, Landlord determines that an Emeryville Affiliate has Affiliate Offering Space that is Available for Lease, said Emeryville Affiliate may advise Tenant (the "Affiliate Offer Notice") of the terms under which said Emeryville Affiliate may be prepared to lease such Affiliate Offering Space to Tenant, including, without limitation, description of the space so offered to Tenant and proposed material economic terms and conditions applicable to Tenant's lease of such space (collectively, "Affiliate Offer Economic Terms"). Tenant may lease such Affiliate Offering Space in its entirety only, under such Affiliate Offer Economic Terms, by delivering written notice of exercise to the appropriate Emeryville Affiliate ("Affiliate Offer Notice of Exercise") within fifteen (15) days after the date of delivery of the Affiliate Offer Notice, except that Tenant shall have no such Affiliate Offer Right and an Emeryville Affiliate need not provide Tenant with an Affiliate Offer Notice, if: (i) Tenant is in Default under this Lease at the time the Emeryville Affiliate would otherwise deliver the Affiliate Offer Notice; or (ii) the Premises, or any portion thereof, is sublet (other than pursuant to a Permitted Transfer) at the time the Emeryville Affiliate would otherwise deliver the Affiliate Offer Notice; (iii) this Lease has been assigned (other than pursuant to a Permitted Transfer) prior to the date the Emeryville Affiliate would otherwise deliver the Affiliate Offer Notice; or (iv) either Tenant or Permitted Transferee is not occupying all of the Premises on the date the Emeryville Affiliate would otherwise deliver the Affiliate Offer Notice.

(i) Terms. The term for any Affiliate Offering Space shall commence upon the commencement date stated in the Affiliate Offer Notice. Tenant understands and acknowledges that the terms of any accepted Affiliate Offer Notice would require documentation in a new lease between said Emeryville Affiliate and Tenant, the terms of which lease, other than the Affiliate Offer Economic Terms, must be approved by both the Emeryville Affiliate and Tenant in their respective sole and absolute discretions.

(ii) Limitation on Affiliate Offer Right. The Affiliate Offer Right is a one-time only right; and if Tenant does not accept an Affiliate Offer Notice from an Emeryville Affiliate within the fifteen (15) day period provided in Section 2.8(b) above, such right shall terminate. Further, the Affiliate Offer Right shall terminate if and at such time as Landlord is able to offer either Offering Space or Special Offering Space to Tenant pursuant to process outlined in Section 2.7 or 2.8(a) above prior to the expiration of the Special ROFO Period, whether or not Tenant accepts any such offer from Landlord. The Affiliate Offer Right shall also terminate upon the expiration of the Special ROFO Period.

Tenant specifically understands and agrees that, while Landlord has agreed to use its commercially-reasonable efforts to cause an Emeryville Affiliate to follow the Affiliate Offer process outlined above. Landlord's inability or failure to do so shall not constitute a Default under this Lease, and that Tenant shall have no remedy nor cause of action either against Landlord or against any Emeryville Affiliate for such failure or inability on the part of Landlord nor for the failure of any Emeryville Affiliate to make any Affiliate Offer Notice to Tenant or of any Emeryville Affiliate to conclude a lease with Tenant pursuant to terms contained in any Affiliate Offer Notice that Tenant may have accepted via Affiliate Offer Notice of Exercise.

ARTICLE 3

RENT

Tenant shall pay to Landlord at the address specified in Section 1.1(2), or to such other persons, or at such other places designated by Landlord or by electronic funds transfer pursuant to Landlord's written instructions, without any prior demand therefor in immediately available funds and without any deduction or offset whatsoever, Rent, including Monthly Base Rent and Rent Adjustments in accordance with Article 4, during the Term. Monthly Base Rent shall be paid monthly in advance on the first day of each month of the Term, except that the first installment of Monthly Base Rent shall be paid by Tenant to Landlord concurrently with execution of this Lease. Monthly Base Rent shall be prorated for partial months within the Term. Unpaid Rent shall bear interest at the Default Rate from the date Tenant receives a notice of such default due until paid. Tenant's covenant to pay Rent shall be independent of every other covenant in this Lease.

ARTICLE 4

RENT ADJUSTMENTS AND PAYMENTS

4.1 RENT ADJUSTMENTS

From and after the Commencement Date, Tenant shall pay to Landlord Rent Adjustments with respect to each calendar year (or partial calendar year in the case of the year in which the Commencement Date and the Termination Date occur) as follows:

(a) The Rent Adjustment Deposit representing Tenants Share of Operating Expenses for the applicable calendar year (or partial calendar year), monthly during the Term with the payment of Monthly Base Rent;

(b) The Rent Adjustment Deposit representing Tenant's Share of Taxes for the applicable calendar year (or partial calendar year), monthly during the Term with the payment of Monthly Base Rent;

(c) Any Rent Adjustments due in excess of the Rent Adjustment Deposits in accordance with Section 4.2. Rent Adjustments due from Tenant to Landlord for any Lease Year shall be Tenant's Share of Operating Expenses for such Lease Year and Tenant's Share of Taxes for such Lease Year; and

(d) For purposes of determining Rent Adjustments, if the Building or Property is not fully occupied during all or a portion of any calendar year (or partial calendar year). Landlord shall make appropriate adjustments to the variable components of Operating Expenses for such calendar year (or partial calendar year), employing sound accounting and management principles consistently applied, to determine the amount of Operating Expenses that would have been paid or incurred by Landlord had the Building or Property been fully occupied, and the amount so determined shall be deemed to have been the amount of Operating Expenses for such calendar year (or partial calendar year). In the event that the Property is not fully assessed for all or a portion of any calendar year (or partial calendar year) during the Term, then Taxes shall be adjusted to an amount which would have been payable in such calendar year (or partial calendar year) if the Property had been fully assessed.

4.2 STATEMENT OF LANDLORD

On or before April 1 of each calendar year (or as soon thereafter as practical). Landlord will furnish to Tenant a statement ("Landlord's Statement") respecting the prior calendar year showing the following:

(a) Operating Expenses and Taxes for such calendar year;

(b) The amount of Rent Adjustments due Landlord for the last calendar year, less credit for Rent Adjustment Deposits paid, if any; and

(c) Any change in the Rent Adjustment Deposit due monthly in the current calendar year, including the amount or revised amount due for months preceding any such change pursuant to Landlord's Statement.

Tenant shall pay to Landlord within thirty (30) days after receipt of each Landlord's Statement any amounts for Rent Adjustments then due in accordance with such Landlord's Statement. Any amounts due from Landlord to Tenant pursuant to this Section shall be credited to the Rent Adjustment Deposit next coming due or refunded to Tenant if the Term has expired, provided Tenant is not in Default hereunder. No interest or penalties shall accrue on any amounts that Landlord is obligated to credit or refund to Tenant by reason of this Section 4.2. Landlord's failure to deliver Landlord's Statement or to compute the amount of the Rent Adjustments shall not constitute a waiver by Landlord of its right to deliver such items nor constitute a waiver or release of Tenant's obligations to pay such amounts. The Rent Adjustment Deposit shall be credited against Rent Adjustments due for the applicable calendar year (or partial calendar year). During the last complete calendar year (or partial calendar year) or during any partial calendar year in which this Lease terminates. Landlord may include in the Rent Adjustment Deposit its estimate of Rent Adjustments which may not be finally determined until after the termination of this Lease. Tenant's obligation to pay Rent Adjustments and Landlord's obligation to refund any Rent Adjustment Deposit to Tenant shall survive the expiration or termination of this Lease.

4.3 BOOKS AND RECORDS

Landlord shall maintain books and records showing Operating Expenses and Taxes in accordance with sound accounting and management practices, consistently applied. Tenant or its representative (which representative shall be a certified public accountant licensed to do business in the state in which the Property is located and whose primary business is certified public accounting and who shall not be paid on a contingency basis) shall have the right, for a period of ninety (90) days following the date upon which Landlord's Statement is delivered to Tenant, to examine the Landlord's books and records with respect to the items in the foregoing statement of Operating Expenses and Taxes during normal business hours, upon written notice, delivered at least three (3) business days in advance, Tenant shall pay for all costs of such examination, provided, however, if such examination results in a discrepancy of more than five percent (5%) in the actual Operating Expenses and Taxes from those shown on the Landlord's Statement, such costs shall be reimbursed by Landlord. If Tenant does not object in writing to Landlord's Statement within ninety (90) days of Tenant's receipt thereof, specifying the nature of the item in dispute and the reasons therefor, then Landlord's Statement shall be considered final and accepted by Tenant and Tenant shall be deemed to have waived its right to dispute Landlord's Statement. If Tenant does dispute any item in the Landlord's Statement, Tenant shall give notice of such dispute to Landlord and deliver a copy of any such audit to Landlord at the time of notification of the dispute. If Tenant does not provide such notice of dispute and a copy of such audit to Landlord within such ninety (90) day period, it shall be deemed to have waived such right to dispute Landlord's Statement. Any amount due to Landlord as shown on Landlord's Statement, whether or not disputed by Tenant as provided herein shall be paid by Tenant when due as provided above, without prejudice to any such written exception. In no event shall Tenant be permitted to examine Landlord's records or to dispute any statement of Operating Expenses and Taxes while Tenant is in Default under this Lease. Upon resolution of any dispute with respect to Operating Expenses and/or Taxes, Tenant shall either pay Landlord any shortfall or Landlord shall credit Tenant with

respect to any overages paid by Tenant (or promptly pay such amount directly to Tenant, if there are not sufficient months left in the Term to credit such amount to). The records obtained by Tenant shall be treated as confidential and neither Tenant nor any of its representatives or agents (including without limitation any financial or legal consultants) shall disclose or discuss the information set forth in the audit to or with any other person or entity except (a) to Tenant's lawyers and accountants, or (b) as required by applicable law ("Confidentiality Requirement"). Tenant shall indemnify and hold Landlord harmless for any losses or damages arising out of the breach of the Confidentiality Requirement.

4.4 TENANT OR LEASE SPECIFIC TAXES

In addition to Monthly Base Rent, Rent Adjustments, Rent Adjustment Deposits and other charges to be paid by Tenant, Tenant shall pay to Landlord, within thirty (30) days following receipt of written demand, any and all taxes payable by Landlord (other than federal or state inheritance, franchise, general income, gift or estate taxes) whether or not now customary or within the contemplation of the parties hereto: (a) upon, allocable to, or measured by the Rent payable hereunder, including any gross receipts tax or excise tax levied by any governmental or taxing body with respect to the receipt of such rent; or (b) upon or with respect to the possession, leasing, operation, management, maintenance, alteration, repair, use or occupancy by Tenant of the Premises or any portion thereof; or (c) upon the measured value of Tenant's personal property located in the Premises or in any storeroom or any other place in the Premises or the Property, or the areas used in connection with the operation of the Property, it being the intention of Landlord and Tenant that, to the extent possible, such personal property taxes shall be billed to and paid directly by Tenant; (d) resulting from any Landlord Work, Tenant Work, Tenant Alterations, or any other improvements to the Premises, whether title thereto is in Landlord or Tenant; or (e) upon this transaction; provided, however, Tenant shall not have any obligation to pay such taxes to the extent they are already included in the calculation of the Operating Expenses for the Project. Taxes paid by Tenant pursuant to this Section 4.4 shall not be included in any computation of Taxes payable pursuant to Sections 4.1 and 4.2.

ARTICLE 5

SECURITY DEPOSIT

Concurrently with the execution of this Lease, Tenant shall pay to Landlord the Security Deposit, in immediately available funds. The Security Deposit may be applied by Landlord to cure, in whole or part, any Default of Tenant under this Lease, and upon notice by Landlord of such application, Tenant shall replenish the Security Deposit in full by paying to Landlord within ten (10) days following receipt of written demand from Landlord the amount so applied. Landlord's application of the Security Deposit shall not constitute a waiver of Tenant's default to the extent that the Security Deposit does not fully compensate Landlord for all losses, damages, costs and expenses incurred by Landlord in connection with such default and shall not prejudice any other rights or remedies available to Landlord under this Lease or by Law. Landlord shall not pay any interest on the Security Deposit. Landlord shall not be required to keep the Security Deposit separate from its general accounts. The Security Deposit shall not be deemed an advance payment of Rent or a measure of damages for any default by Tenant under this Lease, nor shall it be a bar or defense of any action that Landlord may at any time commence against Tenant. In the

absence of evidence satisfactory to Landlord of an assignment of the right to receive the Security Deposit or the remaining balance thereof, Landlord may return the Security Deposit to the original Tenant, regardless of one or more assignments of this Lease. Upon the transfer of Landlord's interest under this Lease, Landlord's obligation to Tenant with respect to the Security Deposit shall terminate upon the date Landlord transfers to the transferee of the Security Deposit, or any balance thereof, and such transferee assumes all of Landlord's obligations under this Lease in writing, including, without limitation, those relating to the Security Deposit. If Tenant shall fully and faithfully comply with all the terms, provisions, covenants, and conditions of this Lease, the Security Deposit, or any balance thereof, shall be returned to Tenant within thirty (30) days after Landlord recovers possession of the Premises, Tenant hereby waives any and all rights of Tenant under the provisions of Section 1950.7 of the California Civil Code or other Law regarding the uses to which security deposits may be applied.

If, upon the expiration of the sixth (6th) Lease Year, all of the following are true: a) all Rent due has been paid, b) Tenant is not in Default hereunder, c) Tenant's net worth and liquidity, as calculated pursuant to GAAP, are each not materially less than they were as of the Date of Lease, Landlord agrees that the Security Deposit amount shall be reduced by fifty percent (50%), to become a revised total of $718,789.00, and the difference of $718,789.00 shall be returned to Tenant within ten (10) days following the expiration of the sixth (6th) Lease Year. Failure of any of the above to be true at the end of the sixth (6th) Lease Year shall mean the Security Deposit shall remain unchanged in amount for the balance of the Lease Term.

ARTICLE 6

SERVICES

6.1 LANDLORD'S GENERAL SERVICES

(a) So long as this Lease is in full force and effect, Landlord shall furnish the following services the cost of which services shall be included in Operating Expenses or paid directly by Tenant to utility or service provider:

(1) heat, ventilation and air-conditioning ("HVAC") in the Premises during Standard Operating Hours as necessary in Landlord's reasonable judgment for the comfortable occupancy of the Premises under normal business office and laboratory operations, and (ii) outside of Tenant's Standard Operating Hours to minimum safe setback levels for laboratory operations ("After-Hours Setback"), subject to compliance with all applicable mandatory regulations and Laws;

(2) tempered and cold water for normal and customary use in the Premises and in lavatories in common with other tenants from the regular supply of the Building;

(3) customary cleaning and janitorial services in the Common Areas five (5) days per week, excluding National Holidays;

(4) washing of the outside windows in the Premises weather permitting at intervals determined by Landlord; and

(5) automatic passenger elevator service in common with other tenants of the Building and freight elevator service subject to reasonable scheduling by Landlord. Tenant shall have access to the Premises seven (7) days per week, twenty-four (24) hours per day, subject to such reasonable measures and systems for access control and/or tenant identification as exist from time to time at the Building, including, for example only, keys or card-keys for entry which shall be provided to Tenant.

(b) Landlord shall provide a security program for the Building (but not individually for Tenant or the Premises) and Tenant's Parking generally consistent with the standards of comparable office/laboratory buildings in Emeryville. The cost of the security program shall be an Operating Expense. Landlord shall not be liable in any manner to Tenant or any other Tenant Parties for any acts (including criminal acts) of others, or for any direct, indirect, or consequential damages, or any injury or damage to, or interference with, Tenant's business, including, but not limited to, loss of profits, loss of rents or other revenues, loss of business opportunity, loss of goodwill or loss of use, or other loss or damage, bodily injury or death, related to any malfunction, circumvention or other failure of any security program, or for the failure of any security program to prevent bodily injury, death, or property damage, or loss, or to apprehend any person suspected of causing such injury, death, damage or loss.

(c) Upon the Rent Commencement Date, Landlord agrees that in the event of an interruption of power to the Building, Tenant will connect Tenant loads to the emergency generator serving the Building (the "Emergency Generator") on the following conditions: (i) Tenant loads to the Emergency Generator shall in no event exceed Tenant's Share of the kVA capacity of the Emergency Generator Landlord elects to make available for shared use by tenants of the Building; (ii) any use of the Emergency Generator, including the duration of use, shall be subject to the requirements and limitations (if any) imposed by applicable Law; and (iii) in the event of an emergency causing an interruption of power to any portion of the Building, Landlord may, in its reasonable discretion, immediately shed or shut down Tenant loads (an "Emergency Shut Down") to the extent reasonably necessary to redirect the power from the Emergency Generator ("Emergency Generator Power") to the Building's emergency/life-safety systems (e.g., elevators, fire-life safety and emergency lighting). To the extent Landlord's load shedding equipment accommodates shedding Tenant loads in stages, then Landlord shall use commercially reasonable good-faith efforts to shed Tenant loads in a priority which Tenant has delivered to Landlord in writing. As a condition to Tenant's right to connect Tenant loads to the Emergency Generator:

(i) Tenant shall install and maintain, at Tenant's sole cost and expense (the cost of which may be deducted from Tenant Improvement Allowance), a meter (the "Meter"), which shall be designed and configured to capture all Tenant loads connected to the Emergency Generator. Any and all reasonable out of pocket costs and expenses incurred by Landlord in connection with the Emergency Generator, including, without limitation, provisions for load-shedding and shunt trips, fuel and maintenance/repair/replacement costs, shall be an Operating Expense; and

(ii) Landlord shall have the right to require Tenant to install and maintain a shunt trip device ("Shunt Trip Device") designed and configured to automatically shut down Tenant's connection to the Emergency Generator and use of Emergency Generator Power in the event that the generator load for the Building exceeds eighty percent (80%) of the Emergency Generator rating.

(iii) Tenant shall provide Landlord and Landlord's building management staff (the "Building Management Staff") with access to the Meter installed on the Emergency Generator ("EG Meter") during normal business hours with at least 48 hours' advance notice for the purpose of inspection. In the event that Tenant fails to repair the EG Meter within thirty (30) days following receipt of written notice from Landlord thereof, Landlord shall have the right to perform necessary maintenance or repairs thereto, and Tenant shall reimburse Landlord for Landlord's reasonable and customary out-of-pocket costs and expenses in connection therewith within thirty (30) days after Tenant's receipt of Landlord's written demand therefor (which demand shall be accompanied by documentation of the costs and expenses which are the subject of such demand). Landlord shall have the right at any time during the Lease Term to install and maintain additional or separate transfer switches, meters, control devices and shunt trip devices in order to monitor and control Tenant's connection to the Emergency Generator and use of the Emergency Generator Power.

(iv) Notwithstanding anything to the contrary herein, Tenant acknowledges that the Emergency Generator and any transfer switch may be exercised on a periodic basis, such exercise to be conducted by Landlord or the Building Management Staff at Landlord's reasonable discretion. Tenant further acknowledges that annual maintenance procedures require that the Emergency Generator be taken off-line and that an annual full load test be performed on an annual basis, which test shall be conducted by Landlord or the Building Management Staff at Landlord's reasonable discretion; provided, however, Landlord shall give Tenant not less than five (5) business days' prior written notice thereof. Landlord shall not be liable to Tenant, and Tenant shall not be entitled to any abatement of rent or other recourse in the event that Emergency Generator Power is not available for any reason. Landlord's actual out-of- pocket cost of such exercise and testing shall be included in the maintenance costs, of which Tenant shall pay its proportionate share as set forth above in Paragraph 5(f).

(v) Upon the expiration or earlier termination of the Lease Term, Tenant shall surrender and assign to Landlord the Meter with the Premises. In no event shall Tenant be entitled to any reimbursement from Landlord for costs incurred by Tenant in connection with Tenant's installation and maintenance of the Meter.

(vi) The rights granted to Tenant under this Section 6.1(c) are personal to the named Tenant hereunder (and any assignee pursuant to a Permitted Transfer) (each an "Approved User"), and shall only be exercisable by an Approved User so long only one connection exists from the Premises to the Emergency Generator at a time. Any attempt by an Approved User or any of its subtenants or other transferees to make any additional connection from the Premises to the Emergency Generator shall constitute a material breach and default, and Tenant shall reimburse Landlord for all reasonable and customary out-of-pocket costs and expenses incurred by Landlord in connection with curing any such default within ten (10) business days following Tenant's receipt of Landlord's demand therefor accompanied by documentation of such costs and expenses.

(d) So long as this Lease is in full force and effect. Landlord shall furnish to the Premises replacement lamps, bulbs, ballasts and starters used in any normal Building lighting installed in the Premises, except that if the replacement or repair of such items is a result of negligence of Tenant, its employees, agents, servants, licensees, subtenants, contractors or invitees, such cost shall be paid by Tenant within ten (10) days after notice from Landlord and shall not be included as part of Operating Expenses.

(e) If Tenant uses heat generating machines or equipment in the Premises to an extent which materially and adversely affects the temperature otherwise maintained by the air-cooling system or whenever the occupancy or electrical load materially and adversely affects the temperature otherwise maintained by the air-cooling system, and if Tenant fails to eliminate such impact within thirty (30) days following written notice from Landlord, Landlord reserves the right to install or to require Tenant to install supplementary air-conditioning units to service the Premises. Tenant shall bear all reasonable costs and expenses related to the installation, maintenance and operation of such units.

6.2 UTILITIES AND JANITORIAL SERVICES

All utility services used in the production of heating and cooling and air supply and exhaust from the central HVAC systems serving the Building and Premises, including, without limitation, electricity and gas, as well as water and sewer services, shall constitute Operating Expenses. If Landlord so elects, any or all utility services used by Tenant within the Premises, including, without limitation, electricity and gas, shall be paid for by Tenant by separate charge and shall not be included as part of Operating Expenses. Such charges shall be based upon Tenant's usage as measured by a separate meter or sub-meter for the Premises installed by Tenant at Tenant's sole cost and expense (the cost of which may be deducted from Tenant Improvement Allowance), a meter, or as reasonably estimated by Landlord and shall be payable by Tenant to Landlord within 30 days after billing by Landlord. In addition, Tenant shall provide its own janitorial services to the Premises, using a janitorial service reasonably acceptable to Landlord or shall make arrangements with Landlord for Landlord, through Landlord's vendors, to perform such Premises cleaning services, and shall pay the costs thereof directly to Landlord. Notwithstanding any provision of this Lease to the contrary, Tenant shall not make any alterations or additions to the electric equipment or systems, in each instance, without the prior written approval of Landlord, which approval shall not be unreasonably withheld, conditioned or delayed so long as such alterations or additions (i) do not exceed the capacity of the wiring, feeders and risers and (ii) are in compliance with the City's building code. Tenant's use of electric current shall at no time exceed the capacity of the wiring, feeders and risers providing electric current to the Premises or the Building. The consent of Landlord to the installation of electric equipment shall not relieve Tenant from the obligation to limit usage of electricity to no more than such capacity.

6.3 ADDITIONAL AND AFTER HOUR SERVICES

At Tenant's written request, Landlord shall furnish additional quantities of any of the services or utilities specified in Section 6.1, if Landlord can reasonably do so, on the terms set forth herein. For services or utilities requested by Tenant and furnished by Landlord, Tenant shall pay to Landlord as a charge therefor Landlord's prevailing rates charged from time to time for such services and utilities, including, without limitation, HVAC service outside of Standard Operating Hours and beyond After-Hours Setback levels.

6.4 TELEPHONE SERVICES

All telephone, and communication connections which Tenant may desire shall be subject to Landlord's prior written approval, in Landlord's reasonable discretion, and the location of all wires and the work in connection therewith shall be performed by contractors reasonably approved by Landlord, and shall be subject to the direction of Landlord and in compliance with Landlord's then current Building Standards for voice, data and wiring installation. Notwithstanding the foregoing, such approval is not required for Tenant's telephone equipment (including cabling) within the Premises and from the Premises in a route reasonably designated by Landlord to any telephone cabinet or panel provided on Tenant's floor for Tenant's connection to the telephone cable serving the Building so long as Tenant's equipment does not require connections different from or additional to those to the telephone cabinet or panel provided. Tenant shall be responsible for and shall pay all costs incurred in connection with the installation of telephone cables and communication wiring in the Premises, including any hook up, access and maintenance fees related to the installation of such wires and cables in the Premises and the commencement of service therein, and the maintenance thereafter of such wire and cables; and there shall be included in Operating Expenses for the Building all installation, removal, hook up or maintenance costs incurred by Landlord in connection with telephone cables and communication wiring serving the Building which are not allocable to any individual users of such service but are allocable to the Building generally. If Tenant fails to maintain all telephone cables and communication wiring in the Premises, and such failure adversely affects or interferes with the operation or maintenance of any other telephone cables or communication wiring serving the Building, Landlord or any vendor hired by Landlord may enter into and upon the Premises forthwith and perform such repairs, restorations or alterations as Landlord deems reasonably necessary in order to eliminate any such interference (and Landlord may recover from Tenant all of Landlord's reasonable costs in connection therewith). Tenant agrees that neither Landlord nor any of its agents or employees shall be liable to Tenant, or any of Tenant's employees, agents, customers or invitees or anyone claiming through, by or under Tenant, for any damages, injuries, losses, expenses, claims or causes of action because of any interruption, diminution, delay or discontinuance at any time for any reason in the furnishing of any telephone or other communication service to the Premises and the Building. Notwithstanding the foregoing to the contrary, to the extent such interruption, diminution, delay or discontinuance is caused by the gross negligence or willful misconduct by Landlord, the property manager, the leasing manager for the Property and their respective partners, members, directors, officers, agents and employees, then Tenant shall be entitled, as its sole remedy, to pursue an action for actual damages (but not punitive, consequential, exemplary, treble or special damages) against Landlord. In no event shall Tenant be entitled to any abatement of Rent or the right to terminate this Lease due to any such interruption, diminution, delay or discontinuance.

6.5 DELAYS IN FURNISHING SERVICES

Tenant agrees that Landlord shall not be in breach of this Lease nor be liable to Tenant for damages or otherwise, for any failure to furnish, or a delay in furnishing, or a change in the quantity or character of any service when such failure, delay or change is occasioned, in whole or in part, by repairs, improvements or mechanical breakdowns, by the act or default of Tenant or other parties or by an event of Force Majeure. No such failure, delay or change shall be deemed to be an eviction or disturbance of Tenant's use and possession of the Premises, or relieve Tenant from paying Rent or from performing any other obligations of Tenant under this Lease, without any deduction or offset; provided, however, in the case of any such failure or delay is caused by the gross negligence or willful misconduct of Landlord and the same materially interferes with Tenant's ability to conduct business in the Premises, then unless Landlord is diligently pursuing a remedy. Rent shall be abated commencing on the fifth (5th) consecutive business day following such failure or delay and shall continue until such time as the failure or delay that materially interferes with Tenant's ability to conduct business in the Premises is cured. Failure to any extent to make available, or any slowdown, stoppage, or interruption of, the specified utility services resulting from any cause, including changes in service provider or Landlord's compliance with any voluntary or similar governmental or business guidelines now or hereafter published or any requirements now or hereafter established by any governmental agency, board, or bureau having jurisdiction over the operation of the Property shall not render Landlord liable in any respect for damages to either persons, property, or business, nor be construed as an eviction of Tenant or work an abatement of Rent, nor relieve Tenant of Tenant's obligations for fulfillment of any covenant or agreement hereof. Notwithstanding the foregoing, Landlord shall make commercially reasonable efforts to provide Tenant with at least three (3) business days' notice of any known, planned interruption in utilities or services. Should any equipment or machinery furnished by Landlord break down or for any cause cease to function properly, Landlord shall use reasonable diligence to repair same promptly, but Tenant shall have no claim for abatement of Rent or damages on account of any interruption of service occasioned thereby or resulting therefrom.

6.6 CHOICE OF SERVICE PROVIDER

Tenant acknowledges that Landlord may, at Landlord's sole option, to the extent permitted by applicable law, elect to change, from time to time, the company or companies which provide services (including electrical service, gas service, water, telephone and technical services) to the Building, the Premises and/or its occupants. Notwithstanding anything to the contrary set forth in this Lease, Tenant acknowledges that Landlord has not and does not make any representations or warranties concerning the identity or identities of the company or companies which provide services to the Building and the Premises or its occupants and Tenant acknowledges that the choice of service providers and matters concerning the engagement and termination thereof shall be solely that of Landlord. The foregoing provision is not intended to modify, amend, change or otherwise derogate any provision of this Lease concerning the nature or type of service to be provided or any specific information concerning the amount thereof to be provided. Tenant agrees to cooperate with Landlord and each of its service providers in connection with any change in service or provider.

6.7 SIGNAGE

(a) Initial Building standard signage for Tenant will be installed by Landlord in the directory in the main lobby of the Building and, in the case of any multi-tenant floor, in the listing of tenants in the elevator lobby for the floor on which the Premises is located, at Landlord's sole cost and expense. In the event Tenant occupies an entire floor of the Building, Tenant may install its own signage in the elevator lobby of such floor, at Tenant's sole cost and expense, and otherwise in accordance with the provisions of Article 9 below. Any change in such initial signage shall be only with Landlord's prior written consent (which shall not be unreasonably withheld, conditioned or delayed), shall conform to Building standard signage and shall be at Tenant's sole cost and expense.

(b) Landlord hereby agrees not to offer exterior, non-exclusive, top of building signage to any other tenant of the Building who has leased two (2) full floors or less without first offering such signage rights to Tenant. Landlord and Tenant hereby agree and acknowledge that if such exterior signage rights are offered by Landlord and accepted by Tenant, Tenant shall pay Landlord the prevailing market rate for such rights, and Landlord and Tenant also agree that the cost to design, secure approvals and permits for, fabricate, install, maintain, repair, remove and restore any such exterior signage shall be at Tenant's sole cost and expense.

ARTICLE 7

POSSESSION, USE AND CONDITION OF PREMISES

7.1 POSSESSION AND USE OF PREMISES

(a) Tenant shall occupy and use the Premises only for the uses specified in Section 1.1(15) to conduct Tenant's business. Tenant shall not occupy or use the Premises (or permit the use or occupancy of the Premises) for any purpose or in any manner which: (1) is unlawful or in violation of any applicable Law or Environmental Law; (2) may be dangerous to persons or property or which may increase the cost of, or invalidate, any policy of insurance carried on the Building or covering its operations; (3) is contrary to or prohibited by the terms and conditions of this Lease or the rules of the Building set forth in Article 18; (4) creates a nuisance, or (5) in any manner that will cause the Building or any part thereof not to conform with the Project's Sustainability Practices or the certification of the Building pursuant to the applicable Green Building Standards; provided, however, that in no event shall such practices or certification requirements have the effect of preventing Tenant from conducting its business at the Premises in a manner consistent with the Permitted Use.

(b) Upon Commencement Date, Landlord shall provide Tenant with 250 Access Card Keys the cost of which shall be paid by Tenant within ten (10) days of Landlord's demand therefor (or at Tenant's election, the cost thereof may be deducted from Tenant Improvement Allowance), and Tenant shall place a deposit for such cards with Landlord to cover lost cards or cards which are not returned at the end of the Term.

(c) Landlord and Tenant acknowledge that the Americans With Disabilities Act of 1990 (42 U.S.C. §12101 et seq.) and regulations and guidelines promulgated thereunder, as all of the same may be amended and supplemented from time to time (collectively referred to herein as the "ADA") establish requirements for business operations, accessibility and barrier removal, and that such requirements may or may not apply to the Premises, the Building and the Project depending on, among other things: (1) whether Tenant's business is deemed a "public accommodation" or "commercial facility", (2) whether such requirements are "readily achievable", and (3) whether a given alteration affects a "primary function area" or triggers "path of travel" requirements. The parties hereby agree that, as between Landlord and Tenant, compliance with any accessibility requirement relating to the Common Area and Landlord Work,

on an unoccupied basis, promulgated under the ADA shall be responsibility of Landlord (and not Tenant), except to the extent that any specific compliance is triggered by Tenant's Use in the Premises or any Tenant Alterations, and more specifically, (A) Landlord shall be responsible for ADA Title III compliance in the Common Areas, except as provided below; (B) Tenant shall be responsible for ADA Title III compliance in the Premises, subject to Landlord's obligation to construct all of the Landlord Work in compliance with all applicable Laws (including ADA), on an unoccupied basis and without regard to Tenant's specific use of the Premises, the cost of which compliance shall be a Tenant Improvement Allowance Item (as defined in the Workletter); provided, however, Landlord shall make commercially reasonable efforts to cause such ADA Title III compliance to be at the cost of the Architect, Building Consultants, and/or Contractor (all as defined in the Workletter), to the extent such non-compliance was due to any negligent act or omission on any of their parts; (C) Landlord may perform, or require that Tenant perform, and Tenant shall be responsible for the cost of, ADA Title III "path of travel" requirements triggered by Tenant Additions in the Premises, and (D) Landlord may perform, or require Tenant to perform, and Tenant shall be responsible for the cost of, ADA Title III compliance in the Common Areas necessitated by the Building being deemed to be a "public accommodation" instead of a "commercial facility" as a result of Tenant's use of the Premises. Tenant shall be solely responsible for requirements under Title I of the ADA relating to Tenant's employees.

(d) Civil Code Section 1938. TENANT HEREBY WAIVES, TO THE FULLEST EXTENT PERMITTED BY LAW, THE PROTECTIONS OF CALIFORNIA CIVIL CODE SECTION 1938. IF SUCH WAIVER IS NOT ENFORCEABLE UNDER CALIFORNIA LAW, THEN THE FOLLOWING PROVISIONS SHALL APPLY. The Premises have not been issued a disability access inspection certificate or undergone inspection by a Certified Access Specialist ("CASp"). The following notice is given pursuant to California Civil Code Section 1938: "A Certified Access Specialist (CASp) can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy or potential occupancy of the lessee or tenant, if requested by the lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of the CASp inspection, the payment of the fee for the CASp inspection, and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the premises." Landlord and Tenant hereby agree that if Tenant elects to perform a CASp inspection of the Premises, Tenant will provide written notice to Landlord, and Landlord may elect, in Landlord's sole discretion, to retain a CASp to perform the inspection. If Landlord does not so elect, the time and manner of the CASp inspection is subject to the prior written approval of Landlord. In either event, the payment of the fee for the CASp inspection shall be borne by Tenant. The cost of making any repairs necessary to correct violations of construction-related accessibility standards within the Premises shall be allocated as provided in this Article.

(e) Tenant agrees to cooperate and use commercially reasonable efforts to participate in traffic management programs provided to Tenant in writing by Landlord, and Tenant shall encourage and support van, shuttle service, and carpooling by, and staggered and flexible working hours for, its office workers and service employees to the extent reasonably permitted by the requirements of Tenant's business. Neither this Section or any other provision of this Lease is intended to or shall create any rights or benefits in any other person, firm, company, governmental entity or the public.

(f) Tenant agrees to cooperate with Landlord and to comply with any and all reasonable guidelines or controls concerning energy management and usage disclosure imposed upon Landlord by federal or state governmental organizations or by any energy conservation association to which Landlord is a party or which is applicable to the Building, including, without limitation, the requirements of California's Nonresidential Building Energy Use Disclosure Program, as more particularly specified in California Public Resources Code Sections 25402,10 *et seq.* and regulations adopted pursuant thereto. Further, Tenant hereby authorizes (and agrees that Landlord shall have the authority to authorize) any electric or gas utility company providing service to the Building to disclose from time to time so much of the data collected and maintained by it regarding Tenant's energy consumption data as may be necessary to cause the Building to participate in the ENERGY STAR® Portfolio Manager system and similar programs; and Tenant further authorizes Landlord to disclose information concerning energy use by Tenant, either individually or in combination with the energy use of other tenants, as applicable as Landlord determines to be necessary to comply with applicable Laws pertaining to the Building or Landlord's ownership thereof.

(g) Hazardous Materials.

(1) Definitions. The following terms shall have the following meanings for purposes of this Lease:

(i) "Biohazardous Materials" means any and all substances and materials defined or referred to as "a-medical waste," "biological waste," "biohazardous waste," "biohazardous material" or any other term of similar import under any Hazardous Materials Laws, including (but not limited to) California Health & Safety Code Sections 25105 *et seq.,* and any regulations promulgated thereunder, as amended from time to time.

(ii) "Environmental Condition" means the Release of any Hazardous Materials in, over, on, under, through, from or about the Project (including, but not limited to, the Premises).

(iii) "Environmental Damages" means all claims, suits, judgments, damages, losses, penalties, fines, liabilities, encumbrances, liens, costs and expenses of whatever kind or nature, contingent or otherwise, matured or unmatured, foreseeable or unforeseeable, arising out of or in connection with any Environmental Condition, including, to the extent arising out of an Environmental Condition, without limitation: (A) damages for personal injury, or for injury or damage to the Project or natural resources occurring on or off the Project, including without limitation (1) any claims brought by or on behalf of any person, (2) any loss of, lost use of, damage to or diminution in value of any Project or natural resource, and (3) costs of any investigation, remediation, removal, abatement, containment, closure, restoration or monitoring work required by any federal, state or local governmental agency or political subdivision, or otherwise reasonably necessary to protect the public health or safety, whether on or off the Project; (B) reasonable fees incurred for the services of attorneys, consultants, contractors, experts and laboratories in connection with the preparation of any feasibility studies, investigations or reports

or the performance of any work described above: (C) any liability to any third person or governmental agency to indemnify such person or agency for costs expended or liabilities incurred in connection with any items described in clause (A) or (B) above; (D) any fair market or fair market rental value of the Project; and (E) the amount of any penalties, damages or costs a party is required to pay or incur in excess of that which the party otherwise would reasonably have expected to pay or incur absent the existence of the applicable Environmental Condition,

(iv) "Handling" or "Handles", when used with reference to any substance or material, includes (but is not limited to) any receipt, storage, use, generation, Release, transportation, treatment or disposal of such substance or material.

(v) "Hazardous Materials" means any and all chemical, explosive, biohazardous, radioactive or otherwise toxic or hazardous materials or hazardous wastes, including without limitation any asbestos-containing materials, PCB's, CFCs, petroleum and derivatives thereof, Radioactive Materials, Biohazardous Materials, Hazardous Wastes, any other substances defined or listed as or meeting the characteristics of a hazardous substance, hazardous material, Hazardous Waste, toxic substance, toxic waste, biohazardous material, biohazardous waste, biological waste, medical waste, radiation, radioactive substance, radioactive waste, or other similar term, as applicable, under any law, statute, ordinance, code, rule, regulation, directive, order, condition or other written requirement enacted, promulgated or issued by any public officer or governmental or quasi-governmental authority, whether now in force or hereafter in force at any time or from time to time to protect the environment or human health, and/or any mixed materials, substances or wastes containing more than one of the foregoing categories of materials, substances or wastes.

(vi) "Hazardous Materials Laws" means, collectively, (A) the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. Sections 9601-9657, (B) the Hazardous Materials Transportation Act of 1975, 49 U.S.C. Sections 1801-1812, (C) the Resource Conservation and Recovery Act of 1976, 42 U.S.C. Sections 6901-6987 (together with any amendments thereto, any regulations thereunder and any amendments to any such regulations as in effect from time to time, "RCRA"), (D) the California Carpenter-Presley-Tanner Hazardous Substance Account Act, California Health & Safety Code Sections 25300 et seq., (E) the Hazardous Materials Release Response Plans and Inventory Act, California Health & Safety Code Sections 25500 et seq., (F) the California Hazardous Waste Control Law, California Health & Safety Code Sections 25100 et seq. (together with any amendments thereto, any regulations thereunder and any amendments to any such regulations as in effect from time to time, the "CHWCL"), (G) California Health & Safety Code Sections 25015-25027.8, (H) any amendments to or successor statutes to any of the foregoing, as adopted or enacted from time to time, (I) any regulations or amendments thereto promulgated pursuant to any of the foregoing from time to time, (J) any Laws relating to Biohazardous Materials, including (but not limited to) any regulations or requirements with respect to the shipping, use, decontamination and disposal thereof, and (K) any other Law now or at any time hereafter in effect regulating, relating to or imposing liability or standards of conduct concerning any Hazardous Materials, including (but not limited to) any requirements or conditions imposed pursuant to the terms of any orders, permits, licenses, registrations or operating plans issued or approved by any governmental or quasi-governmental authority from time to time either on a Project-wide basis or in connection with any Handling of Hazardous Materials in, on or about the Premises or the Project.

(vii) “Hazardous Wastes” means (A) any waste listed as or meeting the identified characteristics of a “hazardous waste” or terms of similar import under RCRA, (B) any waste meeting the identified characteristics of a “hazardous waste”, “extremely hazardous waste” or “restricted hazardous waste” under the CHWCL, and/or (C) any and all other substances and materials defined or referred to as a “hazardous waste” or other term of similar import under any Hazardous Materials Laws.

(viii) “Radioactive Materials” means (A) any and all substances and materials the Handling of which requires an approval, consent, permit or license from the Nuclear Regulatory Commission, (B) any and all substances and materials the Handling of which requires a Radioactive Material License or other similar approval, consent, permit or license from the State of California, and (C) any and all other substances and materials defined or referred to as “radiation,” a “radioactive material” or “radioactive waste,” or any other term of similar import under any Hazardous Materials Laws, including (but not limited to) Title 26, California Code of Regulations Section 17-30100, and any statutes, regulations or other laws administered, enforced or promulgated by the Nuclear Regulatory Commission.

(ix) “Release” means any accidental or intentional spilling, leaking, pumping, pouring, emitting, discharging, injecting, escaping, leaching, migrating, dumping or disposing into the air, land, surface water, groundwater or the environment (including without limitation the abandonment or discarding of receptacles containing any Hazardous Materials).

(x) “Tenant’s Contamination” means any Hazardous Material Release on or about the Property caused by Tenant and/or any agents, employees, contractors, vendors, suppliers, licensees, subtenants, and invitees of Tenant (individually a “Tenant Party” and collectively, “Tenant Parties”).

(xi) “Landlord’s Contamination” means any Hazardous Materials which exist in, on, under or in the vicinity of the Project as of the Commencement Date or which migrate onto or beneath the Project from off-site sources during the Term or after termination of this Lease or which are brought onto the Project during the Term by Landlord and/or any agents, employees, contractors, vendors or licensees of Landlord (collectively with Landlord, “Landlord Parties”). Tenant shall not be required to pay any costs with respect to the remediation or abatement of Landlord’s Contamination.

(2) Handling of Hazardous Materials. The parties acknowledge that Tenant wishes and intends to use all or a portion of the Premises as a bio-pharmaceutical laboratory, research and development and otherwise for the conduct by Tenant of its business in accordance with the use specified in Section 1.1(14), that such use, as conducted or proposed to be conducted by Tenant, would customarily include the Handling of Hazardous Materials, and that Tenant shall therefore be permitted to engage in the Handling in the Premises of necessary and reasonable quantities of Hazardous Materials customarily used in or incidental to the operation of a bio pharmaceutical research, development, preparation and dispensing facility and the other business operations of Tenant in the manner conducted or proposed to be conducted by Tenant hereunder (“Permitted Hazardous Materials”), provided that the Handling of such Permitted Hazardous Materials by all Tenant Parties shall at all times comply with and be subject to all provisions of this Lease and all applicable Laws, including all Hazardous Materials Laws as well as be in

compliance with Landlord's Chemical Control Area Plan for the Building. Without limiting the generality of the foregoing, Tenant shall comply at all times with all Hazardous Materials Laws applicable to any aspect of Tenant's use of the Premises and the Project and of Tenant's operations and activities in, on and about the Premises and the Project, and shall ensure at all times that Tenant's Handling of Hazardous Materials in, on and about the Premises does not violate (x) the terms of any governmental licenses or permits applicable to the Building (including, but not limited to, the Building Discharge Permit as defined below) or Premises or to Tenant's Handling of any Hazardous Materials therein, or (y) any applicable requirements or restrictions relating to the occupancy classification of the Building and the Premises.

(3) Disposition or Emission of Hazardous Materials. Tenant shall not Release or dispose of any Hazardous Materials, except to the extent authorized by permit, at the Premises or on the Project, but instead shall arrange for off-site disposal, under Tenant's own name and EPA waste generator number (or other similar identifying information issued or prescribed by any other governmental authority with respect to Radioactive Materials, Biohazardous Materials or any other Hazardous Materials) and at Tenant's sole expense, in compliance with all applicable Hazardous Materials Laws, with the Laboratory Rules and Regulations (defined below) and with all other applicable Laws and regulatory requirements.

(4) Information Regarding Tenant's Hazardous Materials. Tenant shall maintain and make available to Landlord the following information and/or documentation within thirty (30) days following written demand:

(i) An inventory of all Hazardous Materials that Tenant receives, uses, handles, generates, transports, stores, treats or disposes of from time to time, or at the time of preparation of such inventory proposes or expects to use, handle, generate, transport, store, treat or dispose of from time to time, in connection with its operations at the Premises. Such inventory shall include, but shall separately identify, any Hazardous Wastes, Biohazardous Materials and Radioactive Materials covered by the foregoing description. If such inventory includes any Biohazardous Materials, Tenant shall also disclose in writing to Landlord the Biosafety Level designation associated with the use of such materials.

(ii) Copies of all then existing permits, licenses, registrations and other similar documents issued by any governmental or quasi-governmental authority that authorize any Handling of Hazardous Materials in, on or about the Premises or the Project by any Tenant Party.

(iii) All Material Safety Data Sheets ("MSDSs"), if any, required to be completed with respect to operations of Tenant at the Premises from time to time in accordance with Title 26, California Code of Regulations Section 8-5194 or 42 U.S.C. Section 11021, or any amendments thereto, and any Hazardous Materials Inventory Sheets that detail the MSDSs.

(iv) All hazardous waste manifests (as defined in Title 26, California Code of Regulations Section 22-66481), if any, that Tenant is required to complete from time to time in connection with its operations at the Premises.

(v) A copy of any "Hazardous Materials Business Plan" required from time to time with respect to Tenant's operations at the Premises pursuant to California Health & Safety Code Sections 25500 et seq., and any regulations promulgated thereunder, as amended from time to time, or in connection with Tenant's application for a business license from the City of Emeryville. If applicable law does not require Tenant to prepare a Hazardous Materials Business Plan, Tenant shall furnish to Landlord at the times and in the manner set forth above the information that would customarily be contained in a Hazardous Materials Business Plan, including (but not limited to) information regarding Tenant's Hazardous Materials inventories. The parties acknowledge that a Hazardous Materials Business Plan would ordinarily include an emergency response plan, and that regardless of whether applicable Law requires Tenant or other tenants in the Building to prepare Hazardous Materials Business Plans, Landlord in its discretion may elect to prepare a coordinated emergency response plan for the entire Building and/or for multiple Buildings on the Project.

(vi) Any "Contingency Plans and Emergency Procedures" required of Tenant from time to time, in connection with its operations at the Premises, pursuant to applicable Law, Title 26, California Code of Regulations Sections 22-67140 et seq., and any amendments thereto, and any "Training Programs and Records" required under Title 26, California Code of Regulations Section 22-66493, and any amendments thereto from time to time. Landlord in its discretion may elect to prepare a Contingency Plan and Emergency Procedures for the entire Building and/or for multiple Buildings on the Project, in which event, if applicable law does not require Tenant to prepare a Contingency Plan and Emergency Procedures for its operations at the Premises, Tenant shall furnish to Landlord at the times and in the manner set forth above the information that would customarily be contained in a Contingency Plan and Emergency Procedures.

(vii) Copies of any biennial or other periodic reports furnished or required to be furnished to the California Department of Health Services from time to time, under applicable law, pursuant to Title 26, California Code of Regulations Section 22-66493 and any amendments thereto, relating to any Hazardous Materials.

(viii) Copies of any industrial wastewater discharge permits issued to or held by Tenant from time to time in connection with its operations at the Premises (the parties presently anticipate, however, that because of the existence of the Building Discharge Permit in Landlord's name as described above. Tenant will not be required to maintain a separate, individual discharge permit).

(ix) Copies of any other lists, reports, studies, or inventories of Hazardous Materials or of any subcategories of materials included in Hazardous Materials that Tenant is otherwise required to prepare and file from time to time with any governmental or quasi-governmental authority in connection with Tenant's operations at the Premises, including (but not limited to) reports filed by Tenant with the federal Food & Drug Administration or any other regulatory authorities primarily in connection with the presence (or lack thereof) of any "select agents" or other Biohazardous Materials on the Premises, together with proof of filing thereof.

(x) Any other information reasonably requested by Landlord in writing from time to time in connection with (A) Landlord's monitoring (in Landlord's reasonable discretion) and enforcement of Tenant's obligations under this Section and of compliance with applicable Laws in connection with any Handling or Release of Hazardous Materials in the Premises or Building or on or about the Project by any Tenant Party, (B) any inspections or enforcement actions by any governmental authority pursuant to any Hazardous Materials Laws or any other Laws relating to the presence or Handling of Hazardous Materials in the Premises or Building or on or about the Project by any Tenant Party, and/or (C) Landlord's preparation (in Landlord's discretion) and enforcement of any reasonable rules and procedures relating to the presence or Handling by Tenant or any Tenant Party of Hazardous Materials in the Premises or Building or on or about the Project, including (but not limited to) any contingency plans or emergency response plans as described above. Except as otherwise required by applicable Law, Landlord shall keep confidential any information supplied to Landlord by Tenant pursuant to the foregoing, provided, however, that the foregoing shall not apply to any information filed with any governmental authority or available to the public at large. Landlord may provide such information to its lenders, consultants or investors provided such entities agree to keep such information confidential.

(5) Indemnification; Notice of Release. Tenant shall be responsible for and shall indemnify, defend and hold Landlord harmless from and against all Environmental Damages to the extent arising out of or otherwise relating to, (i) any Handling of Hazardous Materials by any Tenant Party in, on or about the Premises or the Project in violation of this Section, (ii) any breach of Tenant's obligations under this Section or of any Hazardous Materials Laws by any Tenant Party, or (iii) the existence of any Tenant Contamination in, on or about the Premises or the Project to the extent caused by any Tenant Party, including without limitation any removal, cleanup, restoration or remediation work and materials necessary to return the Project or any improvements of whatever nature located on the Project to the condition existing prior to the Handling of Hazardous Materials in, on or about the Premises or the Project by any Tenant Party and as required by applicable Laws. In the event of any Tenant Contamination in, on or about the Premises or any other portion of the Project or any adjacent lands, Tenant shall promptly remedy the problem in accordance with all applicable Hazardous Materials Laws and other applicable Laws, shall give Landlord oral notice of any such non-standard or non-customary Release promptly after Tenant becomes aware of such Release, followed by written notice to Landlord within five (5) days after Tenant becomes aware of such Release, and shall furnish Landlord with concurrent copies of any and all notices, reports and other written materials filed by any Tenant Party with any governmental authority in connection with such Release. Tenant shall have no obligation to remedy any Hazardous Materials contamination which was not caused or released by a Tenant Party.

(6) Governmental Notices. Tenant shall promptly provide Landlord with copies of all notices received by Tenant relating to any actual or alleged presence or Handling by any Tenant Party of Hazardous Materials in, on or about the Premises or any other portion of the Project, including, without limitation, any notice of violation, notice of responsibility or demand for action from any federal, state or local governmental authority or official in connection with any actual or alleged presence or Handling by any Tenant Party of Hazardous Materials in or about the Premises or any other portion of the Project.

(7) Inspection by Landlord. In addition to, and not in limitation of, Landlord's rights under this Lease, upon reasonable prior request by Landlord (of no less than one (1) business day's notice), Tenant shall grant Landlord and its consultants, as well as any governmental authorities having jurisdiction over the Premises or over any aspect of Tenant's use thereof,

reasonable access to the Premises at reasonable times to inspect Tenant's Handling of Hazardous Materials in, on and about the Premises, and Landlord shall not thereby incur any liability to Tenant or be deemed guilty of any disturbance of Tenant's use or possession of the Premises by reason of such entry; provided, however, that Landlord shall use reasonable efforts to minimize interference with Tenant's use of the Premises caused by such entry. Landlord shall comply with any safety and security precaution reasonably imposed by Tenant during any entry onto the Premises (which may include, without limitation, requiring escort by a Tenant representative at all times except during an emergency) and shall minimize to the extent reasonably possible any interference with Tenant's use of the Premises caused by such entry. Notwithstanding Landlord's rights of inspection and review of documents, materials and physical conditions under this Section with respect to Tenant's Handling of Hazardous Materials, Landlord shall have no duty or obligation to perform any such inspection or reviewer to monitor in any way any documents, materials, physical conditions or compliance with applicable Laws in connection with Tenant's Handling of Hazardous Materials, and no third party shall be entitled to rely on Landlord to conduct any such inspection, review or monitoring by reason of the provisions of this Section.

(8) Monitoring by Landlord. Landlord reserves the right to monitor, in Landlord's reasonable discretion and at Landlord's cost (the reasonable cost of which shall be recoverable as an Operating Expense (except in the case of a breach of any of Tenant's obligations under this Section, in which event such monitoring costs may be charged back entirely to Tenant and shall be reimbursed by Tenant to Landlord within ten (10) business days after written demand by Landlord from time to time, accompanied by supporting documentation reasonably evidencing the costs for which such reimbursement is claimed), at such times and from time to time as Landlord in its reasonable discretion may determine, through consultants engaged by Landlord or otherwise as Landlord in its reasonable discretion may determine, (x) all aqueous and atmospheric discharges and emissions from the Premises during the Term by a Tenant Party, (y) Tenant's compliance and the collective compliance of all tenants in the Building with requirements and restrictions relating to the occupancy classification of the Building (including, but not limited to, Hazardous Materials inventory levels of Tenant and all other tenants in the Building), and (z) Tenant's compliance with all other requirements of this Section.

(9) Discovery of Discharge. If Landlord, Tenant or any governmental or quasi-governmental authority discovers any Release from the Premises during the Term caused by a Tenant Party in violation of this Section that, in Landlord's reasonable determination, jeopardizes the ability of the Building or the Project to meet applicable Laws or otherwise adversely affects the Building's or the Project's compliance with applicable discharge or emission standards, or if Landlord discovers any other breach of Tenant's obligations under this Section, then upon receipt of written notice from Landlord or at such earlier time as Tenant obtains actual knowledge of the applicable discharge, emission or breach, Tenant at its sole expense shall within a reasonable time (x) in the case of a Release caused by a Tenant Party in violation of this Lease, cease the applicable discharge or emission and remediate any continuing effects of the discharge or emission until such time, if any, as Tenant demonstrates to Landlord's reasonable satisfaction that the applicable discharge or emission is in compliance with all applicable Laws and any other applicable regulatory commitments and obligations to the satisfaction of the appropriate governmental agency with jurisdiction over the Release, and (y) in the case of any other breach of Tenant's obligations under this Section, take such corrective measures as Landlord may reasonably request in writing in order to cure or eliminate the breach as promptly as practicable and to remediate any continuing effects of the breach.

(10) Post-Occupancy Study. No later than thirty (30) days prior to the Termination Date, Tenant at its sole cost and expense, shall obtain and deliver to Landlord an environmental study, performed by an expert reasonably satisfactory to Landlord, evaluating, the presence or absence of any Tenant Contamination in, on and about the Premises and the Project. Such study shall be based on a reasonable and prudent level of tests and investigations of the Premises and surrounding portions of the Project (if appropriate) and, if applicable, as required by governing regulatory agencies or bodies for such closure, which tests shall be conducted no earlier than thirty (30) days prior to the Termination Date. Liability for any remedial actions required or recommended on the basis of such study shall be allocated in accordance with the applicable provisions of this Lease. To the extent any such remedial actions are the responsibility of Tenant, Tenant at its sole expense shall promptly commence and diligently pursue to completion the required remedial actions.

(11) Emergency Response Plans. If Landlord in its reasonable discretion adopts any emergency response plan and/or any Contingency Plan and Emergency Procedures for the Building or for multiple Buildings on the Project as contemplated above, Landlord shall provide copies of any such plans and procedures to Tenant and, so long as such plans and procedures are reasonable, comply with applicable Laws, do not unreasonably interfere with Tenant's use of or access to the Premises or materially increase the cost incurred by Tenant with respect to the Premises. Tenant shall comply with all of the requirements of such plans and procedures to the extent applicable to Tenant and/or the Premises. If Landlord elects to adopt or materially modify any such plans or procedures that apply to the Building during the Term, Landlord shall consult with Tenant, and Tenant shall cooperate, in the preparation of such plans, procedures or modifications in efforts to accurately reflect and maintain consistency with Tenant's operations in the Premises, but Landlord alone shall determine, in its good faith reasonable discretion, the appropriate scope of such consultation and nothing in this paragraph shall be construed to give Tenant any right of approval or disapproval over Landlord's adoption or modification of any such plans or procedures so long as such plans and procedures are reasonable, do not unreasonably interfere with Tenant's use of or access to the Premises or materially increase the cost incurred by Tenant with respect to the Premises.

(12) Radioactive Materials. Without limiting any other applicable provisions of this Section, if Tenant Handles or proposes to Handle any Radioactive Materials in or about the Premises, Tenant shall provide Landlord with copies of Tenant's licenses or permits for such Radioactive Materials and with copies of all radiation protection programs and procedures required under applicable Laws or otherwise adopted by Tenant from time to time in connection with Tenant's Handling of such Radioactive Materials. In addition, Tenant shall comply with any and all rules and procedures issued by Landlord in its good faith discretion from time to time with respect to the Handling of Radioactive Materials on the Project (such as, by way of example but not limitation, rules implementing a label defacement program for decayed waste destined for common trash and/or rules relating to transportation and storage of Radioactive Materials on the Project), provided that such rules and procedures shall be reasonable and not in conflict with any applicable Laws.

(13) Deemed Holdover Occupancy. Notwithstanding any other provisions of this Lease, Tenant expressly agrees as follows:

(i) If Tenant Handles any Radioactive Materials in or about the Premises or the Project during the Term, then for so long as any license or permit relating to such Radioactive Materials remains open following the Termination Date, and another entity handling Radioactive Materials which is a prospective tenant of Landlord is legally prohibited from occupying a portion of the Premises for a use similar to Tenant's use, then Tenant shall be deemed to be occupying that portion of the Premises on a holdover basis without Landlord's consent (notwithstanding such otherwise applicable termination or expiration of the Term) and shall be required to continue to pay Rent and other charges in accordance with Article 13 solely for that portion of the Premises effected by the radioactive materials license, until such time as all such Radioactive Materials licenses and permits have been fully closed out in accordance with the requirements of this Lease and with all applicable Hazardous Materials Laws and other Laws.

(ii) If Tenant Handles any Hazardous Materials in or about the Premises or the Project during the Term and, on or before the Termination Date, has failed to remove from the Premises or the Project all known Hazardous Materials Handled by a Tenant Party or has failed to complete any remediation or removal of Tenant's Contamination and/or to have fully remediated in compliance with the requirements of this Lease and with all applicable Hazardous Materials Laws and any other applicable Laws, the Tenant's Handling and/or Release (if applicable) of any such Hazardous Materials during the Term, then for so long as such circumstances continue to exist, Tenant shall be deemed to be occupying the Premises on a holdover basis without Landlord's consent (notwithstanding such otherwise applicable termination or expiration of the Term) and shall be required to continue to pay Rent and other charges in accordance with Article 13 until such time as all such circumstances have been fully resolved in accordance with the requirements of this Lease and with all applicable Hazardous Materials Laws and other Laws.

(14) Survival of Obligations. Each party's obligations under this Section shall survive the Termination Date and shall survive any conveyance by Landlord of its interest in the Premises. The provisions of this Section and any exercise by either party of any of the rights and remedies contained herein shall be without prejudice to any other rights and remedies that such party may have under this Lease or under applicable Law with respect to any Environmental Conditions and/or any Hazardous Materials. Either party's exercise or failure to exercise, at any time or from time to time, any or all of the rights granted in this Section shall not in any way impose any liability on such party or shift from the other party to such party any responsibility or obligation imposed upon the other party under this Lease or under Hazardous Materials Laws, Environmental Conditions and/or compliance with applicable Laws.

(15) Laboratory Rules and Regulations. Tenant agrees for itself and for its subtenants, employees, agents, and invitees to comply with the laboratory rules and regulations ("Laboratory Rules and Regulations") attached to this Lease as Exhibit C-l and with all reasonable modifications and additions thereto which Landlord may make from time to time.

7.2 LANDLORD ACCESS TO PREMISES; APPROVALS

(a) Tenant shall permit Landlord to erect, use and maintain pipes, ducts, wiring and conduits in and through the Premises, so long as Tenant's use, layout or design of the Premises is not materially affected or altered. Landlord or Landlord's agents shall have the right to enter upon the Premises (i) to perform scheduled janitorial and other routine services or (ii) in the event of an emergency, or (ii) upon not less than 48 hours' prior notice, to inspect the Premises, to conduct safety and other testing in the Premises, and to make such repairs, alterations, improvements or additions to the Premises or the Building or other parts of the Property as Landlord may deem necessary or desirable (including all alterations, improvements and additions in connection with a change in service provider or providers) during reasonable times, in all cases, subject to the terms and conditions set forth in this Lease. Janitorial and cleaning services shall be performed after Standard Operating Hours. Any entry or work by Landlord may be during Standard Operating Hours and Landlord shall use reasonable efforts to ensure that any entry or work shall not materially interfere with Tenant's access to, use and occupancy of the Premises.

(b) Advance notice shall not be required for entry to perform routine janitorial and cleaning services or for entry in the event of an emergency or urgent situation, as reasonably determined by Landlord, but any other entry or work by Landlord shall be upon at least two (2) business day's prior notice to Tenant, which notice may be delivered orally or by e-mail to Tenant's on-site manager at the Premises. If Tenant shall not be personally present to permit an entry into the Premises when for any reason an entry therein shall be necessary or permissible, Landlord (or Landlord's agents), after notifying Tenant (unless Landlord believes an emergency situation exists), may enter the Premises without rendering Landlord or its agents liable therefor, and without relieving Tenant of any obligations under this Lease.

(c) Subject to the entry requirements set forth in this Section 7.1(g)(7), Landlord may enter the Premises for the purpose of conducting such inspections, tests and studies as Landlord may deem reasonably desirable or necessary to confirm Tenant's compliance with all Laws and Hazardous Materials Laws or for other purposes necessary in Landlord's reasonable judgment to ensure the sound condition of the Property and the systems serving the Property. Landlord's rights under this Section 7.2(c) are for Landlord's own protection only, and Landlord has not, and shall not be deemed to have assumed, any responsibility to Tenant or any other party as a result of the exercise or non-exercise of such rights, for compliance with Laws or Hazardous Materials Laws or for the accuracy or sufficiency of any item or the quality or suitability of any item for its intended use.

(d) Landlord may do any of the foregoing, or undertake any of the inspection or work described in the preceding paragraphs without such action constituting an actual or constructive eviction of Tenant, in whole or in part, or giving rise to an abatement of Rent by reason of loss or interruption of business of Tenant, or otherwise; provided that such activities are conducted in accordance with the requirements under this Lease.

(e) The review, approval or consent of Landlord with respect to any item required or permitted under this Lease is for Landlord's own protection only, and Landlord has not, and shall not be deemed to have assumed, any responsibility to Tenant or any other party, as a result of the exercise or non-exercise of such rights, for compliance with Laws or Hazardous Materials Laws or for the accuracy or sufficiency of any item or the quality or suitability of any item for its intended use.

7.3 QUIET ENJOYMENT

Landlord covenants, in lieu of any implied covenant of quiet possession or quiet enjoyment, that so long as Tenant is in compliance with the covenants and conditions set forth in this Lease, Tenant shall have the right to quiet enjoyment of the Premises without hindrance or interference from Landlord or those claiming through Landlord, and subject to the covenants and conditions set forth in this Lease and to the rights of any Mortgagee or ground lessor.

7.4 TENANT ACKNOWLEDGMENTS REGARDING PROPERTY

(a) The Property is situated in the City of Emeryville ("City") in a mixed-use area that includes, among other possible uses permitted by the City, residential, commercial, manufacturing, industrial and laboratory/research uses. In recognition of such mixed-use character of area in which the Property is located, as a condition of the approval of the development of the Building on the Property, the City has required that Landlord disclose to tenants of the Building that:

(1) industrial and laboratory/research uses located in nearby buildings have the potential to emit noise at levels and during hours of the day that persons may find disturbing;

(2) nearby manufacturing, industrial and laboratory/research uses may generate odor;

(3) at times there may be substantial truck traffic in the area;

(4) there is a mainline railroad in the vicinity of the Property that operates 24 hours per day, seven days per week, with associated train horns and other sounds and vibration;

(5) future development in the vicinity of the Property may block views from the Building; and

(6) the site on which the Building is built formerly contained hazardous materials; under the direction of the Environmental Protection Agency and the State Department of Toxic Substances Control (the "Agencies"), remediation and abatement measures have been undertaken to address potential health risks associated with such hazardous materials; and the documents relating to the remediation and abatement measures at the Property are on file at Landlord's property management office and at the offices of the Agencies (the parties acknowledge that this clause (6) constitutes the notice required by Cal. Health and Safety Code Section 25359.7).

Tenant acknowledges the foregoing disclosures required to be made by Landlord regarding the mixed-use character of the area in which the Property is located.

(7) As required by the terms of that certain Covenant and Restriction referenced hereinbelow, the following notice regarding the land upon which the 6100 Horton Street parking garage is situated is provided:

"The land described herein [i.e., the land upon which the Parking Garage is located] contains polychlorinated biphenyls (PCBs) in soil and volatile organic compounds in groundwater under the Burdened Property referred to as "Emery Station West Parking Garage", and is subject to a deed restriction dated as of August 11, 2016, and recorded on August 19, 2016, in the Official Records of Alameda County, California, as Document No, 2016210925, which Covenant and Restriction imposes certain covenants, conditions, and restrictions on usage of the property described herein. This statement is not a declaration that a hazard exists."

(8) During the Lease Term, Landlord shall provide Tenant and its employees reasonable access to any shared lockers and showers serving the Building and other properties owned by Landlord or Landlord's Affiliates, such access to be free of charge other that for charges customarily charged to all tenants and employees.

7.5 TRANSPORTATION DEMAND MANAGEMENT PROGRAM

Landlord may elect or may be required to develop and implement a Transportation Demand Management ("TDM") program for the Building in order to reduce the traffic-related impacts resulting from development of the Property. One element of any such TDM program will require tenants of the Building to adopt programs and offer incentives to their employees to reduce auto use and support the increase of alternative modes of transit. The following are examples of such programs and incentives:

- Alternative commute subsidies and/or parking cash-out, where employees are provided with a subsidy if they use transit or commute by alternative modes;
- Opportunities to purchase commuter checks which allow employees to purchase transit tickets at discounted rates from their before-tax income; and
- Compressed work weeks and flex time where employees adjust their work schedules to reduce peak hour trips to/from the Building.

In order to support any such TDM program for the Building, Tenant agrees that it shall use commercially reasonable efforts to adopt programs and offer incentives to its employees in order to reduce auto use and support the increase of alternative modes of transit. The specifics of Tenant's programs and incentives shall be tailored to the needs of Tenant's workforce and shall be determined by Tenant in its good faith efforts to meet the goals of the TDM program. Upon request by Landlord from time to time, but not more often than once per calendar year, Tenant shall provide to Landlord a written report summarizing the programs and incentives being offered by Tenant to achieve the goals of the TDM program.

ARTICLE 8

MAINTENANCE

8.1 LANDLORD'S MAINTENANCE

Subject to the provisions of Articles 4 and 14, Landlord shall, as an Operating Expense, maintain and make necessary repairs to the foundations, roofs, exterior walls, and the structural elements of the Building, the electrical, plumbing, heating, ventilating, air-conditioning, mechanical, communication, security and the fire and life safety systems of the Building and those corridors, washrooms and lobbies which are Common Areas of the Building, except that: (a) Landlord shall not be responsible for the maintenance or repair of any floor or wall coverings in the Premises or any of such systems which are located within the Premises and are supplemental or special to the Building's standard systems; and (b) the cost of performing any of said maintenance or repairs whether to the Premises or to the Building caused by the negligence of Tenant, its employees, agents, servants, licensees, subtenants, contractors or invitees, shall be paid by Tenant, subject to the waivers set forth in Section 16.4. Landlord shall not be liable to Tenant for any expense, injury, loss or damage resulting from work done in or upon, or in connection with the use of, any adjacent or nearby building, land, street or alley. Notwithstanding the foregoing to the contrary, to the extent such expense, injury, loss or damage is caused by the gross negligence or willful misconduct by Landlord, the property manager, the leasing manager for the Property and their respective partners, members, directors, officers, agents and employees, then Tenant shall be entitled, as its sole remedy, to pursue an action for actual damages (but not punitive, consequential, exemplary, treble or special damages) against Landlord. In no event shall Tenant be entitled to any abatement of Rent or the right to terminate this Lease due to any such expense, injury, loss or damage.

8.2 TENANT'S MAINTENANCE

Tenant shall periodically inspect the Premises to identify any conditions that are dangerous or in need of maintenance or repair. Tenant shall promptly provide Landlord with notice of any such conditions. Tenant shall, at its sole cost and expense, perform all maintenance and repairs to the Premises that are not Landlord's express responsibility under this Lease, and keep the Premises in good condition and repair, reasonable wear and tear and damages from casualty excepted. Tenant's repair and maintenance obligations include, without limitation, repairs to: (a) floor covering; (b) interior partitions; (c) doors; (d) the interior side of demising walls; (e) electronic, phone and data cabling, wiring and related equipment that is installed by or for the exclusive benefit of Tenant (collectively, "Cable"); (f) supplemental air conditioning units, kitchens, including hot water heaters, plumbing, and similar facilities exclusively serving Tenant; and (g) Tenant Alterations. To the extent Landlord is not reimbursed by insurance proceeds, Tenant shall reimburse Landlord for the cost of repairing damage to the Building caused by the acts of Tenant, Tenant Parties and their respective contractors and vendors. All maintenance and repairs, including, but not limited to, janitorial and cleaning services, pest control and waste management and recycling performed by or on behalf of Tenant must comply with the Project's Sustainability Practices and the applicable Green Building Standards. If Tenant fails to make any repairs to the Premises for more than thirty (30) days after notice from Landlord (although notice shall not be required in an emergency), Landlord may make the repairs, and Tenant shall pay the reasonable

cost of the repairs, together with an administrative charge in an amount equal to 10% of the cost of the repairs. Tenant hereby waives all right to make repairs at the expense of Landlord or in lieu thereof to vacate the Premises and its other similar rights as provided in California Civil Code Sections 1932(1), 1941 and 1942 or any other Laws (whether now or hereafter in effect). In addition to the foregoing, Tenant shall be responsible for repairing all special tenant fixtures and improvements, including garbage disposals, showers, plumbing, and appliances.

ARTICLE 9

ALTERATIONS AND IMPROVEMENTS

9.1 TENANT ALTERATIONS

(a) The following provisions shall apply to the completion of any Tenant Alterations:

(1) Tenant shall not, except as provided herein, without the prior written consent of Landlord, which consent shall not be unreasonably withheld, conditioned or delayed, make or cause to be made any Tenant Alterations in or to the Premises or any Building Systems serving the Premises. Prior to making any Tenant Alterations, Tenant shall give Landlord ten (10) days' prior written notice (or such earlier notice as would be necessary pursuant to applicable Law) to permit Landlord sufficient time to post appropriate notices of non-responsibility. Subject to all other requirements of this Article 9, Tenant may undertake Decoration work without Landlord's prior written consent. Tenant shall furnish Landlord with the names and addresses of all contractors and subcontractors and copies of all contracts. All Tenant Alterations shall be completed at such time and in such manner as Landlord may from time to time designate, and only by contractors or mechanics approved by Landlord, which approval shall not be unreasonably withheld, conditioned or delayed; provided, however, that Landlord may, in its sole discretion, specify the engineers and contractors to perform all work relating to the Building's Systems (including the mechanical, heating, plumbing, security, ventilating, air-conditioning, electrical, communication and the fire and life safety systems in the Building). The contractors, mechanics and engineers who may be used are further limited to those whose work will not cause or threaten to cause disharmony or unreasonable interference with Landlord or other tenants in the Building and their respective agents and contractors performing work in or about the Building. Landlord may further condition its consent upon Tenant furnishing to Landlord and Landlord approving prior to the commencement of any work or delivery of materials to the Premises related to the Tenant Alterations such of the following as specified by Landlord (only to the extent applicable and applicable to the type of Tenant Alterations proposed by Tenant): architectural plans and specifications, opinions from Landlord's engineers stating that the Tenant Alterations will not in any way adversely affect the Building's systems, necessary permits and licenses, certificates of Insurance, and such other documents in such form reasonably requested by Landlord. Landlord may, in the exercise of reasonable judgment, request that Tenant provide Landlord with appropriate evidence of Tenant's ability to complete and pay for the completion of the Tenant Alterations such as a performance bond or letter of credit for any Tenant Alterations which are expected to cost more than Five Hundred Thousand Dollars ($500,000). Upon completion of the Tenant Alterations, Tenant shall deliver to Landlord an as-built mylar and digitized (if available) set of plans and specifications for the Tenant Alterations.

(2) Tenant shall pay the cost of all Tenant Alterations and the cost of decorating the Premises and any work to the Property occasioned thereby. Upon completion of Tenant Alterations, Tenant shall furnish Landlord with contractors' affidavits and full and final waivers of lien and receipted bills covering all labor and materials expended and used in connection therewith and such other documentation reasonably requested by Landlord or Mortgagee.

(3) Tenant agrees to complete all Tenant Alterations (i) in accordance with all Laws, Hazardous Materials Laws, all requirements of applicable insurance companies and in accordance with Landlord's standard construction rules and regulations, (ii) in a good and workmanlike manner with the use of good grades of materials, and (iii) in accordance with the requirements of the Project's Sustainability Practices and comply with the applicable Green Building Standards. Tenant shall notify Landlord immediately if Tenant receives any notice of violation of any Law in connection with completion of any Tenant Alterations and shall immediately take such steps as are necessary to remedy such violation. In no event shall such supervision or right to supervise by Landlord nor shall any approvals given by Landlord under this Lease constitute any warranty by Landlord to Tenant of the adequacy of the design, workmanship or quality of such work or materials for Tenant's intended use or of compliance with the requirements of Section 9.1 (a)(3)(i) and (ii) above or impose any liability upon Landlord in connection with the performance of such work.

(b) All Tenant Additions, whether installed by Landlord or Tenant, shall without compensation or credit to Tenant, become part of the Premises and the property of Tenant at the time of their installation and shall remain in the Premises, unless pursuant to Article 12, Tenant may remove them or is required to remove them at Landlord's request. Any remaining Tenant Additions and Landlord Work shall become the property of Landlord at the expiration or termination of this Lease, For the avoidance of doubt, Tenant shall retain the right to depreciation deductions of all Tenant Alterations made at Tenant's expense.

9.2 LIENS

Tenant shall not permit any lien or claim for lien of any mechanic, laborer or supplier or any other lien to be filed against the Building, the Land, the Premises, or any other part of the Property arising out of work performed, or alleged to have been performed by, or at the direction of, or on behalf of Tenant; provided that Tenant shall have no obligation for liens or encumbrances caused by Landlord even if such liens or encumbrances arise out of work done on behalf of or for the benefit of Tenant. If any such lien or claim for lien is filed, Tenant shall within twenty (20) days of receiving notice of such lien or claim (a) have such lien or claim for lien released of record or (b) deliver to Landlord a bond in form, content, amount, and issued by surety, reasonably satisfactory to Landlord, indemnifying, protecting, defending and holding harmless the Indemnitees against all costs and liabilities resulting from such lien or claim for lien and the foreclosure or attempted foreclosure thereof. If Tenant fails to take any of the above actions, Landlord, in addition to its rights and remedies under Article 11, without investigating the validity of such lien or claim for lien, may pay or discharge the same and Tenant shall, as payment of additional Rent hereunder, reimburse Landlord upon demand for the amount so paid by Landlord, including Landlord's expenses and reasonable attorneys' fees.

ARTICLE 10

ASSIGNMENT AND SUBLETTING

10.1 ASSIGNMENT AND SUBLETTING

(a) Subject to Landlord's recapture right set forth in Section 10.2, without the prior written consent of Landlord, which consent of Landlord shall not be unreasonably withheld, conditioned or delayed, Tenant may not sublease, assign, mortgage, pledge, hypothecate or otherwise transfer or permit the transfer of this Lease or the encumbering of Tenant's interest therein in whole or in part, by operation of Law or otherwise or permit the use or occupancy of the Premises, or any part thereof, by anyone other than Tenant. Tenant agrees that the provisions governing sublease and assignment set forth in this Article 10 shall be deemed to be reasonable. If Tenant desires to enter into any sublease of the Premises or assignment of this Lease, Tenant shall deliver written notice thereof to Landlord ("Tenant's Notice"), together with the identity of the proposed subtenant or assignee and the proposed principal terms thereof and financial and other information sufficient for Landlord to make an informed judgment with respect to such proposed subtenant or assignee at least thirty (30) days prior to the commencement date of the term of the proposed sublease or assignment. If Tenant proposes to sublease a portion of the Premises containing more than 3,000 rentable square feet, the space proposed to be sublet and the space retained by Tenant must each be a marketable unit as reasonably determined by Landlord and otherwise in compliance with all Laws. Landlord shall notify Tenant in writing of its approval or disapproval of the proposed sublease or assignment or its decision to exercise its rights under Section 10.2 within ten (10) business days after receipt of Tenant's Notice (and all required information). In the event Landlord fails to respond to Tenant's Notice within such ten (10) day period, then Tenant may deliver to Landlord a second (2nd) written request, which must contain the following inscription, in bold faced lettering: "SECOND NOTICE DELIVERED PURSUANT TO SECTION 10.1 OF THE LEASE — FAILURE TO TIMELY RESPOND WITHIN THREE (3) BUSINESS DAYS SHALL RESULT IN DEEMED APPROVAL OF PROPOSED TRANSFER." If Landlord fails to respond within such three (3) business day period, then Landlord shall be deemed to have approved the proposed transfer that was the subject of such Tenant Notice. Tenant shall submit for Landlord's approval (which approval shall not be unreasonably withheld, conditioned or delayed) any advertising which Tenant or its agents intend to use with respect to the space proposed to be sublet.

(b) With respect to Landlord's consent to an assignment or sublease, Landlord may take into consideration any factors that Landlord may deem relevant in its commercially reasonable judgment, and the reasons for which Landlord's denial shall be deemed to be reasonable shall include, without limitation, the following:

(i) the business reputation or creditworthiness of any proposed subtenant or assignee is not acceptable to Landlord; or

(ii) in Landlord's reasonable judgment the proposed assignee or sublessee would diminish the value or reputation of the Project or Landlord; or

(iii) any proposed assignee's or sublessee's use of the Premises would violate Section 7.1 of this Lease or would violate the provisions of any other leases of tenants in the Project; or

(iv) the proposed sublessee or assignee is a bona fide prospective tenant of Landlord in the Project as demonstrated by a written proposal dated within six (6) months prior to the date of Tenant's request and Landlord has vacancy in the Project of a similar size and finish as the space subject to such proposed sublease or assignment; or

(v) the proposed sublessee or assignee would materially increase the estimated pedestrian and vehicular traffic to and from the Premises and the Project above that deemed typical by Landlord for office/lab use in the Project; or

(vi) a Default by Tenant under this Lease shall be continuing.

(c) Any sublease or assignment shall be expressly subject to the terms and conditions of this Lease. Any subtenant or assignee shall execute such commercially reasonable and customary documents as Landlord may reasonably require to evidence such subtenant or assignee's assumption of the obligations and liabilities of Tenant under this Lease. Tenant shall deliver to Landlord a copy of all agreements executed by Tenant and the proposed subtenant and assignee with respect to the Premises. Landlord's approval of a sublease, assignment, hypothecation, transfer or third party use or occupancy shall not constitute a waiver of Tenant's obligation to obtain Landlord's consent to further assignments or subleases, hypothecations, transfers or third party use or occupancy.

(d) For purposes of this Article 10, an assignment shall be deemed to include a change in the majority control of Tenant, resulting from any transfer, sale or assignment of shares of stock of Tenant occurring by operation of Law or otherwise if Tenant is a corporation whose shares of stock are not traded publicly. If Tenant is a partnership, any change in the partners of Tenant shall be deemed to be an assignment.

(e) For purposes of this Lease, a "Permitted Transferee" shall mean any Person which: (i) is an Affiliate; or (ii) is the corporation or other entity (the "Successor") resulting from a merger, consolidation or non-bankruptcy reorganization with Tenant; or (iii) is otherwise a deemed assignee due to a change of control under Section 10.1(d) above; or (iv) purchases substantially all of the assets of Tenant as a going concern (the "Purchaser"). Notwithstanding anything to the contrary in Sections 10.1(a) and (b) and 10.3, provided there is no uncured Default under this Lease, Tenant shall have the right, without the prior written consent of Landlord, to assign this Lease to a Permitted Transferee or to sublease the Premises or any part thereof to a Permitted Transferee provided that: (1) Landlord receives ten (10) days' prior written notice of an assignment or sublease (including a proposed transaction described in subparts (i), (ii), (iii) or (iv) of this Section 10.1 (e), to the extent such prior notice is permitted under applicable Laws); (2) with respect to an assignment of this Lease or a sublease of more than half the Premises to an entity described in subparts (ii) or (iv) of this Section 10.1(e), the Permitted Transferee's net worth and liquidity are each not less than Tenant's net worth immediately prior to such assignment or subletting; (3) with respect to an assignment of this Lease or a sublease of more than half the Premises to an entity described in subparts (i) or (iii) of this Section 10.1 (e), Tenant (as the

assignor or sublandlord) continues in existence with a net worth not less than Tenant's net worth immediately prior to such assignment or subletting; (4) the Permitted Transferee expressly assumes (except a Permitted Transferee which is a deemed assignee under subpart (iii) of this Section 10.1(e) or which is a sublessee in the event of a sublease under this Section 10.1(e)) in writing reasonably satisfactory to Landlord all of the obligations of Tenant under this Lease and delivers such assumption to Landlord no later than fifteen (15) days following the effective date of the assignment; (5) Landlord receives no later than five (5) days following the effective date a fully executed copy of the applicable assignment or sublease agreement between Tenant and the Permitted Transferee; (6) promptly after Landlord's written request, Tenant and the Permitted Transferee provide such reasonable documents and information which Landlord reasonably requests for the purpose of substantiating whether or not the assignment or sublease is to a Permitted Transferee; and (7) such transfer is not being entered into for the primary purpose of avoiding the requirement for Landlord's prior consent or the provisions of Sections 10.2 or 10.3. All determinations of net worth and liquidity for purposes of this Subsection shall exclude any value attributable to goodwill or going concern value.

(f) With respect to any sublease hereunder, subject to Section 10.3 below, Tenant hereby irrevocably assigns to Landlord, effective upon any such sublease, all rent and other payments due from subtenant under the sublease, provided however, that Tenant shall have a license to collect such rent and other payments until the occurrence of a Default by Tenant under any of the provisions of this Lease. At any time after such Default, at Landlord's option. Landlord shall have the right to give notice to the subtenant of such assignment. Landlord shall credit Tenant with any rent received by Landlord under such assignment, but the acceptance of any payment on account of rent from the subtenant as the result of any such default shall in no manner whatsoever serve to release Tenant from any liability under the terms, covenants, conditions, provisions or agreement under this Lease. No such payment of rent or any other payment by the subtenant directly to Landlord and/or acceptance of such payment(s) by Landlord, regardless of the circumstances or reasons therefor, shall in any manner whatsoever be deemed an attornment by the subtenant to Landlord in the absence of a specific written agreement signed by Landlord to such an effect.

10.2 RECAPTURE

Excluding any assignment or sublease contemplated in Section 10.1(e), if Tenant requests an assignment of this Lease or a sublease of the entire Premises for any period or a sublease for at least seventy-five (75%) of the Premises for the remainder of the then-current Term, Landlord shall have the option to exclude from the Premises covered by this Lease ("recapture") the space proposed to be sublet or subject to assignment, effective as of the proposed commencement date of such sublease or proposed effective date of such assignment. If Landlord elects to recapture, Tenant shall have the right to revoke the request to so sublet or assign by providing Landlord written notice thereof no later than five (5) days following Landlord's recapture notice to Tenant in which case, the Premises shall not be transferred, and this Lease will remain in full force and effect with respect to the entirety of the Premises then-existing as of the date of such request or consent by Tenant. If Landlord elects to recapture and Tenant has not revoked its request for consent, Tenant shall surrender possession of the space proposed to be subleased or subject to the assignment to Landlord on the effective date of recapture of such space from the Premises, such date being the Termination Date for such space. Effective as of the date of recapture of any portion of the Premises pursuant to this section, the Monthly Base Rent, Rentable Area of the Premises and Tenant's Share shall be adjusted accordingly.

10.3 EXCESS RENT

Except in connection with any assignment or sublease contemplated in Section 10.1(e), Tenant shall pay Landlord on the first day of each month during the term of the sublease or assignment, fifty percent (50%) of the amount by which the sum of all rent and other consideration (direct or indirect) due from the subtenant or assignee for such month exceeds: a) that portion of the Monthly Base Rent and Rent Adjustments due under this Lease for said month which is allocable to the space sublet or assigned, and b) the following costs and expenses for the subletting or assignment of such space: (i) brokerage commissions and attorneys' fees and expenses, (ii) the actual costs paid in making any improvements or substitutions in the Premises required by any sublease or assignment; and (iii) "free rent" periods, costs of any inducements or concessions given to subtenant or assignee, moving costs, and other amounts in respect of such subtenant's or assignee's other leases or occupancy arrangements.

10.4 TENANT LIABILITY

In the event of any sublease or assignment, whether or not with Landlord's consent, Tenant shall not be released or discharged from any liability, whether past, present or future, under this Lease, including any liability arising from the exercise of any renewal or expansion option, to the extent such exercise is expressly permitted by Landlord. Tenant's liability shall remain primary, and in the event of default by any subtenant, assignee or successor of Tenant in performance or observance of any of the covenants or conditions of this Lease, Landlord may proceed directly against Tenant without the necessity of exhausting remedies against said subtenant, assignee or successor. In addition, if Tenant has any options to extend the Term or to add other space to the Premises, such options shall not be available to any subtenant or assignee (other than Permitted Transferees), directly or indirectly without Landlord's express written consent, which may be withheld in Landlord's sole discretion.

10.5 ASSUMPTION AND ATTORNMENT

If Tenant shall assign this Lease as permitted herein, the assignee shall expressly assume all of the obligations of Tenant hereunder in a written instrument satisfactory to Landlord and furnished to Landlord not later than fifteen (15) days prior to the effective date of the assignment. If Tenant shall sublease the Premises as permitted herein. Tenant shall, at Landlord's option, within fifteen (15) days following any request by Landlord, obtain and furnish to Landlord the written agreement of such subtenant to the effect that the subtenant will attorn to Landlord and will pay all sublease rent directly to Landlord.

10.6 PROCESSING EXPENSES

Tenant shall pay to Landlord, as Landlord's cost of processing each proposed assignment or subletting (whether or not the same is ultimately approved by Landlord or consummated by Tenant) except in connection with Permitted Transfers, an amount equal to the sum of (i) Landlord's reasonable attorneys' and other professional fees, not to exceed $2,000, plus (ii) the sum of $1,500.00 for the cost of Landlord's administrative, accounting and clerical time

(collectively, "Processing Costs"). Notwithstanding anything to the contrary herein, Landlord shall not be required to process any request for Landlord's consent to an assignment or subletting until Tenant has paid to Landlord the amount of Landlord's estimate of the Processing Costs. When the actual amount of the Processing Costs is determined, it shall be reconciled with Landlord's estimate, and any payments or refunds required as a result thereof shall promptly thereafter be made by the parties.

10.7 EFFECT OF IMPERMISSIBLE TRANSFER

Any assignment or sublease effected without Landlord's consent in violation of this Article 10 shall, at Landlord's option, be a non-curable Default under Section 11.1 without the necessity of any notice and grace period.

ARTICLE 11

DEFAULT AND REMEDIES

11.1 EVENTS OF DEFAULT

The occurrence or existence of any one or more of the following shall constitute a "Default" by Tenant under this Lease:

(i) Tenant fails to pay any installment or other payment of Rent including Rent Adjustment Deposits or Rent Adjustments when due, where such failure shall continue for a period of five (5) days after Tenant's receipt of written notice thereof from Landlord;

(ii) Tenant fails to observe or perform any of the other covenants, conditions or provisions of this Lease or the Workletter and fails to cure such default within thirty (30) days after written notice thereof to Tenant, unless the default involves a hazardous condition, which shall be cured forthwith or unless the failure to perform is a Default for which this Lease specifies there is no cure or grace period. Notwithstanding the foregoing, if any such cure cannot be reasonably completed within such thirty (30) day period, Tenant shall have such longer period as needed to complete such cure (up to ninety (90) days, subject to extension due to Force Majeure) so long as the cure is commenced within such thirty (30) day period and Tenant diligently pursues to completion;

(iii) Tenant fails to maintain any insurance policy required hereunder, and fails to cure such default within five (5) business days after written notice thereof to Tenant;

(iv) Tenant abandons the Premises for a period of ten (10) consecutive days or any abandonment of the Premises by Tenant which would cause any insurance policy to be invalidated or otherwise lapse, in each of forgoing cases if Tenant is then in monetary default under this Lease;

(v) an assignment or sublease, or attempted assignment or sublease, of this Lease or the Premises by Tenant contrary to the provisions of Article 10, unless such assignment or sublease is expressly conditioned upon Tenant having received Landlord's consent thereto;

(vi) the interest of Tenant in this Lease is levied upon under execution or other legal process;

(vii) a petition is filed by or against Tenant to declare Tenant bankrupt or seeking a plan of reorganization or arrangement under any Chapter of the Bankruptcy Act, or any amendment, replacement or substitution therefor, or to delay payment of, reduce or modify Tenant's debts, which in the case of an involuntary action is not discharged within sixty (60) days;

(viii) Tenant is declared insolvent by Law or any assignment of Tenant's property is made for the benefit of creditors;

(ix) a receiver is appointed for Tenant or Tenant's property, which appointment is not discharged within thirty (30) days;

(x) any action taken by or against Tenant to reorganize or modify Tenant's capital structure in a materially adverse way which in the case of an involuntary action is not discharged within thirty (30) days; or

(xi) upon the dissolution of Tenant.

11.2 LANDLORD'S REMEDIES

(a) A Default shall constitute a breach of this Lease for which Landlord shall have the rights and remedies set forth in this Section 11.2 and all other rights and remedies set forth in this Lease or now or hereafter allowed by Law, whether legal or equitable, and all rights and remedies of Landlord shall be cumulative and none shall exclude any other right or remedy now or hereafter allowed by applicable Law.

(b) With respect to a Default, at any time Landlord may terminate Tenant's right to possession by written notice to Tenant stating such election. Any written notice required pursuant to Section 11.1 shall constitute notice of unlawful detainer pursuant to California Code of Civil Procedure Section 1161 if, at Landlord's sole discretion, it states Landlord's election that Tenant's right to possession is terminated after expiration of any period required by Law or any longer period required by Section 11.1. Upon the expiration of the period stated in Landlord's written notice of termination (and unless such notice provides an option to cure within such period and Tenant cures the Default within such period), Tenant's right to possession shall terminate and this Lease shall terminate, and Tenant shall remain liable as hereinafter provided. Upon such termination in writing of Tenant's right to possession, Landlord shall have the right, subject to applicable Law, to re-enter the Premises and dispossess Tenant and the legal representatives of Tenant and all other occupants of the Premises by unlawful detainer or other summary proceedings, or as otherwise permitted by Law, regain possession of the Premises and remove their property (including their trade fixtures, personal property and Required Removables pursuant to Article 12), but Landlord shall not be obligated to effect such removal, and such property may, at Landlord's option, be stored elsewhere, sold or otherwise dealt with as permitted by Law, at the risk of, expense of and for the account of Tenant, and the proceeds of any sale shall be applied pursuant to Law. Landlord shall in no event be responsible for the value, preservation or safekeeping of any such property. Tenant hereby waives all claims for damages that may be caused by Landlord's removing or storing Tenant's personal property pursuant to this Section or

Section 12.1, and Tenant hereby indemnifies, and agrees to defend, protect and hold harmless, the Indemnitees from any and all loss, claims, demands, actions, expenses, liability and cost (including attorneys' fees and expenses) arising out of or in any way related to such removal or storage. Upon such written termination of Tenant's right to possession and this Lease, Landlord shall have the right to recover damages for Tenant's Default as provided herein or by Law, including the following damages provided by California Civil Code Section 1951.2:

(1) the worth at the time of award of the unpaid Rent which had been earned at the time of termination;

(2) the worth at the time of award of the amount by which the unpaid Rent which would have been earned after termination until the time of award exceeds the amount of such Rent loss that Tenant proves could reasonably have been avoided;

(3) the worth at the time of award of the amount by which the unpaid Rent for the balance of the Term of this Lease after the time of award exceeds the amount of such Rent loss that Tenant proves could be reasonably avoided; and

(4) any other amount necessary to compensate Landlord for all the detriment proximately caused by Tenant's failure to perform its obligations under this Lease or which in the ordinary course of things would be likely to result therefrom, including, without limitation, Landlord's unamortized costs of tenant improvements, leasing commissions and legal fees incurred in connection with entering into this Lease.

The word "rent" as used in this Section 11.2 shall have the same meaning as the defined term Rent in this Lease. The "worth at the time of award" of the amount referred to in clauses (1) and (2) above is computed by allowing interest at the Default Rate. The worth at the time of award of the amount referred to in clause (3) above is computed by discounting such amount at the discount rate of the Federal Reserve Bank of San Francisco at the time of award plus one percent (1%). For the purpose of determining unpaid Rent under clause (3) above, the monthly Rent reserved in this Lease shall be deemed to be the sum of the Monthly Base Rent, monthly storage space rent, if any, and the amounts last payable by Tenant as Rent Adjustments for the calendar year in which Landlord terminated this Lease as provided hereinabove.

(c) Even if Tenant is in Default and/or has abandoned the Premises, this Lease shall continue in effect for so long as Landlord does not terminate Tenant's right to possession by written notice as provided in Section 11.2(b) above, and Landlord may enforce all its rights and remedies under this Lease, including the right to recover Rent as it becomes due under this Lease. In such event. Landlord shall have all of the rights and remedies of a landlord under California Civil Code Section 1951.4 (Landlord may continue Lease in effect after Tenant's Default and abandonment and recover Rent as it becomes due, if Tenant has the right to sublet or assign, subject only to reasonable limitations), or any successor statute. During such time as Tenant is in Default, if Landlord has not terminated this Lease by written notice and if Tenant requests Landlord's consent to an assignment of this Lease or a sublease of the Premises, subject to Landlord's option to recapture pursuant to Section 10.2, Landlord shall not unreasonably withhold, condition or delay its consent to such assignment or sublease. Tenant acknowledges and agrees that in the absence of written notice pursuant to Section 11.2(b) above terminating Tenant's right to possession, no other

act of Landlord shall constitute a termination of Tenant's right to possession or an acceptance of Tenant's surrender of the Premises, including acts of maintenance or preservation or efforts to re-let the Premises or the appointment of a receiver upon initiative of Landlord to protect Landlord's interest under this Lease or the withholding of consent to a subletting or assignment, or terminating a subletting or assignment, if in accordance with other provisions of this Lease.

(d) in the event that Landlord seeks an injunction with respect to a breach or threatened breach by Tenant of any of the covenants, conditions or provisions of this Lease, Tenant agrees to pay the premium for any bond required in connection with such injunction.

(e) Tenant hereby waives any and all rights to relief from forfeiture, redemption or reinstatement granted by Law (including California Civil Code of Procedure Sections 1174 and 1179) in the event of Tenant being evicted or dispossessed for any cause or in the event of Landlord obtaining possession of the Premises by reason of Tenant's Default or otherwise;

(f) Notwithstanding any other provision of this Lease, a notice to Tenant given under this Article and Article 24 of this Lease or given pursuant to California Code of Civil Procedure Section 1161, and any notice served by mail, shall be deemed served, and the requisite waiting period deemed to begin under said Code of Civil Procedure Section upon mailing (except as may be required under Code of Civil Procedure Section 1161 et seq.), without any additional waiting requirement under Code of Civil Procedure Section 1011 et seq. or by other Law. For purposes of Code of Civil Procedure Section 1162, Tenant's "place of residence", "usual place of business", "the property" and "the place where the property is situated" shall mean and be the Premises, whether or not Tenant has vacated same at the time of service.

(g) The voluntary or other surrender or termination of this Lease, or a mutual termination or cancellation thereof, shall not work a merger and shall terminate all or any existing assignments, subleases, subtenancies or occupancies permitted by Tenant, except if and as otherwise specified in writing by Landlord.

(h) No delay or omission in the exercise of any right or remedy of Landlord upon any default by Tenant, and no exercise by Landlord of its rights pursuant to Section 26.16 to perform any duty which Tenant fails timely to perform, shall impair any right or remedy or be construed as a waiver. No provision of this Lease shall be deemed waived by Landlord unless such waiver is in writing signed by Landlord. The waiver by Landlord of any breach of any provision of this Lease shall not be deemed a waiver of any subsequent breach of the same or any other provision of this Lease.

11.3 ATTORNEY'S FEES

In the event any party brings any suit or other proceeding with respect to the subject matter or enforcement of this Lease, the prevailing party (as determined by the court, agency or other authority before which such suit or proceeding is commenced) shall, in addition to such other relief as may be awarded, be entitled to recover reasonable attorneys' fees, expenses and costs of investigation as actually incurred, including court costs, expert witness fees, costs and expenses of investigation, and all reasonable attorneys' fees, costs and expenses in any such suit or proceeding (including in any action or participation in or in connection with any case or proceeding under the Bankruptcy Code, 11 United States Code Sections 101 et seq., or any successor statutes, in establishing or enforcing the right to indemnification, in appellate proceedings, or in connection with the enforcement or collection of any judgment obtained in any such suit or proceeding).

11.4 BANKRUPTCY

The following provisions shall apply in the event of the bankruptcy or insolvency of Tenant:

(a) In connection with any proceeding under Chapter 7 of the Bankruptcy Code where the trustee of Tenant elects to assume this Lease for the purposes of assigning it, such election or assignment, may only be made upon compliance with the provisions of subclauses (b) and (c) below, which conditions Landlord and Tenant acknowledge to be commercially reasonable. In the event the trustee elects to reject this Lease then Landlord shall immediately be entitled to possession of the Premises without further obligation to Tenant or the trustee.

(b) Any election to assume this Lease under Chapter 11 or 13 of the Bankruptcy Code by Tenant as debtor-in-possession or by Tenant's trustee (the "Electing Party") must provide for the Electing Party to cure or provide to Landlord adequate assurance that it will cure all monetary defaults under this Lease within fifteen (15) days from the date of assumption and that it will cure all nonmonetary defaults under this Lease within thirty (30) days from the date of assumption. Landlord and Tenant acknowledge such condition to be commercially reasonable.

(c) If the Electing Party has assumed this Lease or elects to assign Tenant's interest under this Lease to any other person, such interest may be assigned only if the intended assignee has provided adequate assurance of future performance (as herein defined), of all of the obligations imposed on Tenant under this Lease.

(d) For the purposes hereof, "adequate assurance of future performance" means that Landlord has ascertained that each of the following conditions has been satisfied:

(i) The assignee has submitted a current financial statement, certified by its chief financial officer, which shows a net worth and working capital in amounts sufficient to assure the future performance by the assignee of Tenant's obligations under this Lease; and

(ii) Landlord has obtained consents or waivers from any third parties that may be required under a lease, mortgage, financing arrangement, or other agreement by which Landlord is bound, to enable Landlord to permit such assignment.

(e) Landlord's acceptance of rent or any other payment from any trustee, receiver, assignee, person, or other entity will not be deemed to have waived, or waive, the requirement of Landlord's consent. Landlord's right to terminate this Lease for any transfer of Tenant's interest under this Lease without such consent, or Landlord's claim for any amount of Rent due from Tenant.

11.5 LANDLORD'S DEFAULT

Landlord shall be in default hereunder in the event Landlord has not commenced and pursued with reasonable diligence the cure of any failure of Landlord to meet its obligations hereunder within thirty (30) days after the receipt by Landlord of written notice from Tenant of the alleged failure to perform. Failure to provide the requisite notice and cure period by Tenant under this paragraph shall be an absolute defense by Landlord against any claims for failure to perform any of its obligations. In no event shall Tenant have the right to terminate or rescind this Lease as a result of Landlord's default as to any covenant or agreement contained in this Lease. Tenant hereby waives such remedies of termination and rescission and hereby agrees that Tenant's remedies for default hereunder and for breach of any promise or inducement shall be limited to a suit for damages and/or injunction. In addition, Tenant hereby covenants that, prior to the exercise of any such remedies, it will give the Mortgagee notice and a reasonable time to cure any default by Landlord, provided that Tenant has received written notice of the address of such Mortgagee.

ARTICLE 12

SURRENDER OF PREMISES

12.1 IN GENERAL

Upon the Termination Date, Tenant shall surrender and vacate the Premises immediately and deliver possession thereof to Landlord in a broom-clean, good and tenantable condition, excepting ordinary wear and tear, repairs and maintenance for which Landlord is responsible under this Lease and damage caused by casualty and/or Landlord. Tenant shall deliver to Landlord all keys to the Premises. All permanent improvements in and to the Premises (other than Tenant's trade fixtures, equipment and personal property), including any Tenant Alterations (collectively, "Leasehold Improvements") shall remain upon the Premises at the end of the Term without compensation to Tenant. Landlord, however, by written notice to Tenant at least 90 days prior to the Termination Date, may require Tenant, at its expense, to remove (a) any Cable, and (b) any Tenant Additions that, in Landlord's reasonable judgment, are of a nature that would require removal and repair costs that are materially in excess of the removal and repair costs associated with standard laboratory and office improvements, as applicable, only to the extent Landlord notified Tenant of such required removal at the time Landlord approved such Tenant Addition (collectively referred to as "Required Removables"). Required Removables shall include, without limitation, raised floors, personal baths and showers, vaults, rolling file systems and structural alterations and modifications. The designated Required Removables shall be removed by Tenant before the Termination Date. Tenant's removal and disposal of items pursuant to this Paragraph 12 must comply with the Project's Sustainability Practices and the applicable Green Building Standards. Tenant shall repair damage caused by the installation or removal of Required Removables. If Tenant fails to perform its obligations in a timely manner, Landlord may perform such work at Tenant's expense. Tenant, at the time it requests approval for a proposed Tenant Alteration, may request in writing that Landlord advise Tenant whether the proposed Tenant Alteration or any portion of the proposed Tenant Alteration is a Required Removable. Within 10 days after receipt of Tenant's request. Landlord shall advise Tenant in writing as to which portions of the proposed Tenant Alterations are Required Removables. If any of the Tenant Additions which were installed by Tenant involved the lowering of ceilings, raising of floors or

the installation of specialized wall or floor coverings or lights, unless otherwise approved by Landlord, then Tenant shall also be obligated to return such surfaces to their condition prior to the commencement of this Lease. Tenant shall also be required to close any staircases or other openings between floors. In the event possession of the Premises is not delivered to Landlord when required hereunder, or if Tenant shall fail to remove those items described above, Landlord may (but shall not be obligated to), at Tenant's expense, remove any of such property and store, sell or otherwise deal with such property, and undertake, at Tenant's expense, such restoration work as Landlord deems necessary or advisable.

12.2 LANDLORD'S RIGHTS

All property which remains in the Premises after the Termination Date (including any of Tenant's trade fixtures, equipment and personal property) shall be conclusively presumed to have been abandoned by Tenant, and Landlord may deal with such property as provided in Section 11.2(b), including the waiver and indemnity obligations provided in that Section. Tenant shall also reimburse Landlord for all costs and expenses incurred by Landlord in removing any Required Removables Tenant failed to remove prior to the Termination Date and in restoring the Premises to the condition required by this Lease. For the period prior to the Termination Date, Landlord hereby waives any lien rights which it may otherwise have concerning Tenant's furniture, fixtures, equipment and/or supplies at the Premises, and Tenant shall have the right to remove the same at any time without Landlord's consent.

ARTICLE 13

HOLDING OVER

In the event that Tenant holds over in possession of the Premises after the Termination Date, for each month or partial month Tenant holds over possession of the Premises, Tenant shall pay Landlord 150% of the monthly Base Rent payable for the month immediately preceding the holding over, as well as Rent Adjustments during the period of such holding over, as the same may be reasonably estimated by Landlord). Tenant shall also pay all damages, but not including consequential damages, sustained by Landlord by reason of such holding over. The provisions of this Article 13 shall not constitute a waiver by Landlord of any re-entry rights of Landlord, and Tenant's continued occupancy of the Premises shall be as a tenancy in sufferance.

ARTICLE 14

DAMAGE BY FIRE OR OTHER CASUALTY

14.1 SUBSTANTIAL UNTENANTABILITY

(a) If any fire or other casualty (whether insured or uninsured) renders all or a substantial portion of the Premises or the Building untenantable, Landlord shall, with reasonable promptness after the occurrence of such damage, cause a licensed and qualified architect or contractor to estimate the length of time that will be required to substantially complete the repair and restoration and shall, by notice advise Tenant of such estimate ("Landlord's Notice"). If Landlord's Notice indicates that the amount of time required to substantially complete such repair and restoration will exceed one hundred eighty (180) days from the date such damage occurred, then Landlord, or Tenant if all or a substantial portion of the Premises is rendered untenantable, shall have the right to terminate this Lease as of the date of such damage by delivering written notice to the other at any time within thirty (30) days after delivery of Landlord's Notice, provided that if Landlord so chooses, Landlord's Notice may also constitute such notice of termination.

(b) Unless this Lease is terminated as provided in the preceding subparagraph, Landlord shall proceed with reasonable promptness to repair and restore the Premises to its condition as existed prior to such casualty, subject to reasonable delays for insurance adjustments and Force Majeure delays, and also subject to zoning Laws and building codes then in effect. Landlord shall have no liability to Tenant, and Tenant shall not be entitled to terminate this Lease if such repairs and restoration are not in fact completed within the time period estimated by Landlord so long as Landlord shall proceed with reasonable diligence to complete such repairs and restoration. Notwithstanding the foregoing, if Landlord is obligated to repair or restore the Premises pursuant to this Section 14.1 (b) and does not Commence (as defined below in this Section 14.1(b)) such repair or restoration within ninety (90) days after such obligation shall accrue (the "Outside Start Date"), which Outside Start Date shall be subject to extension due to Force Majeure, Tenant shall have the right, as its sole remedy, to terminate this Lease effective as of the date that is thirty (30) days after the Outside Start Date (the "Casualty Lease Termination Date") by giving written notice thereof to Landlord ("Tenant's Termination Notice") within fifteen (15) days after the Outside Start Date; provided, however, that if Landlord does Commence the repair or restoration on or before the Casualty Lease Termination Date, Tenant's election to termination shall be null and void and this Lease shall continue in full force and effect. "Commence" shall mean either the unconditional authorization of the preparation of the required plans necessary for such repair or restoration, or the beginning of the actual work to repair or restore the Premises, whichever first occurs. In order for Tenant to have the termination right provided for in this Section 14.1(b), Tenant's Termination Notice must (i) be concurrently sent to any Mortgagee whose address has been provided to Tenant, and (ii) state Tenant's intention to terminate this Lease as of the Casualty Lease Termination Date.

(c) Tenant acknowledges that Landlord shall be entitled to the full proceeds of any insurance coverage, whether carried by Landlord or Tenant, for damages to the Premises, except for (i) those proceeds of Tenant's insurance of its own personal property, trade fixtures and equipment which would be removable by Tenant at the Termination Date, and (ii) proceeds of any business interruption insurance maintained by Tenant. All such insurance proceeds shall be payable to Landlord whether or not the Premises are to be repaired and restored, provided, however, if this Lease is not terminated and the parties proceed to repair and restore Tenant Additions at Tenant's cost, to the extent Landlord received proceeds of Tenant's insurance covering Tenant Additions, such proceeds shall be applied to reimburse Tenant for its cost of repairing and restoring Tenant Additions.

(d) Notwithstanding anything to the contrary herein set forth: (i) Landlord shall have no duty pursuant to this Section to repair or restore any portion of any Tenant Additions or to expend for any repair or restoration of the Premises or Building in amounts in excess of insurance proceeds paid to Landlord and available for repair or restoration; and (ii) Tenant shall not have the right to terminate this Lease pursuant to this Section if any damage or destruction was caused by the act or neglect of Tenant, its agent or employees. Whether or not this Lease is terminated pursuant to this Article 14, in no event shall Tenant be entitled to any compensation or damages for loss of the use of the whole or any part of the Premises or for any inconvenience or annoyance occasioned by any such damage, destruction, rebuilding or restoration of the Premises or the Building or access thereto.

(e) Any repair or restoration of the Premises performed by Tenant shall be in accordance with the provisions of Article 9 hereof.

14.2 INSUBSTANTIAL UNTENANTABILITY

If the Premises or the Building is damaged by a casualty but neither is rendered substantially untenantable for the Permitted Use, and Landlord's Notice indicates that the time to substantially complete the repair or restoration will not exceed one hundred eighty (180) days from the date such damage occurred, then Landlord shall proceed to repair and restore the Building and/or the Premises other than Tenant Additions, with reasonable promptness, unless such damage is to the Premises and occurs during the last twelve (12) months of the Term (regardless of the estimated repair time), in which event either Tenant or Landlord shall have the right to terminate this Lease as of the date of such casualty by giving written notice thereof to the other within thirty (30) days after the date of such casualty. Notwithstanding the aforesaid, Landlord's obligation to repair shall be limited in accordance with the provisions of Section 14.1 above.

14.3 RENT ABATEMENT

Except for the negligence or willful act of Tenant or its agents, employees, contractors or invitees, if all or any part of the Premises are rendered untenantable by fire or other casualty and this Lease is not terminated, Monthly Base Rent and Rent Adjustments shall abate for that part of the Premises which is untenantable on a per diem basis from the date of the casualty until Landlord has Substantially Completed the repair and restoration work in the Premises which it is required to perform, provided, that as a result of such casualty. Tenant does not occupy the portion of the Premises which is untenantable during such period.

14.4 WAIVER OF STATUTORY REMEDIES

The provisions of this Lease, including this Article 14, constitute an express agreement between Landlord and Tenant with respect to any and all damage to, or destruction of, the Premises or the Property or any part of either, and any Law, including Sections 1932(2), 1933(4), 1941 and 1942 of the California Civil Code, with respect to any rights or obligations concerning damage or destruction shall have no application to this Lease or to any damage to or destruction of all or any part of the Premises or the Property or any part of either, and are hereby waived.

ARTICLE 15

EMINENT DOMAIN

15.1 TAKING OF WHOLE OR SUBSTANTIAL PART

In the event the whole or any substantial part of the Building or of the Premises is taken or condemned by any competent authority for any public use or purpose (including a deed given in lieu of condemnation) and is thereby rendered untenantable or such taking could reasonably

expected to have a material adverse effect on Tenant's ability to operate its business at the Premises in substantially the same manner operated by Tenant prior to such taking, this Lease shall terminate as of the date title vests in such authority, and Monthly Base Rent and Rent Adjustments shall be apportioned as of the Termination Date. Notwithstanding anything to the contrary herein set forth, in the event the taking is temporary (for less than the remaining Term of this Lease), Landlord may elect either (i) to terminate this Lease, or (ii) permit Tenant to receive the entire award attributable to the Premises in which case Tenant shall continue to pay Rent and this Lease shall not terminate.

15.2 TAKING OF PART

In the event a part of the Building or the Premises is taken or condemned by any competent authority (or a deed is delivered in lieu of condemnation) and this Lease is not terminated, this Lease shall be amended to reduce or increase, as the case may be, the Monthly Base Rent and Tenant's Share to reflect the Rentable Area of the Premises or Building, as the case may be, remaining after any such taking or condemnation. Landlord, upon receipt and to the extent of the award in condemnation (or proceeds of sale) shall make necessary repairs and restorations to the Premises (exclusive of Tenant Additions) and to the Building to the extent necessary to constitute the portion of the Building not so taken or condemned as a complete architectural and economically efficient unit. Notwithstanding the foregoing, if as a result of any taking, or a governmental order that the grade of any street or alley adjacent to the Building is to be changed and such taking or change of grade makes it necessary or desirable to substantially remodel or restore the Building or prevents the economical operation of the Building, Landlord shall have the right to terminate this Lease upon ninety (90) days' prior written notice to Tenant.

15.3 COMPENSATION

Landlord shall be entitled to receive the entire award (or sale proceeds) from any such taking, condemnation or sale without any payment to Tenant, and Tenant hereby assigns to Landlord, Tenant's interest, if any, in such award; provided, however, Tenant shall have the right separately to pursue against the condemning authority a separate award in respect of the loss, if any, to Tenant Additions paid for by Tenant and relocation costs without any credit or allowance from Landlord so long as there is no diminution of Landlord's award as a result.

ARTICLE 16

INSURANCE

16.1 TENANT'S INSURANCE

Tenant, at Tenant's expense, agrees to maintain in force, with a company or companies acceptable to Landlord, during the Term: (a) Commercial General Liability Insurance on a primary basis and without any right of contribution from any insurance carried by Landlord covering the Premises on an occurrence basis against all claims for personal injury, bodily injury, death and property damage, including contractual liability covering the indemnification provisions in this Lease, and such insurance shall be for such limits that are reasonably required by Landlord from time to time but not less than a combined single limit (each occurrence and in the aggregate) of Five Million and No/100 Dollars ($5,000,000.00) (which limit may be achieved through use of umbrella coverage); (b) Workers' Compensation and Employers' Liability Insurance to the extent

required by and in accordance with the Laws of the State of California; (c) "All Risks" property insurance in an amount adequate to cover the full replacement cost of all Tenant Additions, equipment, installations, fixtures and contents of the Premises (including coverage in the event of loss from earthquake, water damage, and earthquake sprinkler leakage, up to a maximum coverage amount of Five Million and No/100 Dollars (35,000,000.00)); (d) in the event a motor vehicle is to be used by Tenant in connection with its business operation from the Premises, Comprehensive Automobile Liability Insurance coverage with limits of not less than One Million and No/100 Dollars (31,000,000.00) combined single limit coverage against bodily injury liability and property damage liability arising out of the use by or on behalf of Tenant, its agents and employees in connection with this Lease, of any owned, non-owned or hired motor vehicles; (e) environmental liability (also known as "Pollution Legal Liability") coverage with limits of not less than One Million and No/100 Dollars (31,000,000.00) to cover Tenant's indemnity obligations pursuant to Section 7.1 (f)(5) above; and (f) such other insurance or coverages as Landlord reasonably requires, so long as such coverages are then required for all comparable tenants of the Project.

16.2 FORM OF POLICIES

Each policy referred to in Section 16.1 shall satisfy the following requirements. Each policy shall (i) name Landlord and the Indemnitees as additional insureds (except Workers' Compensation and Employers' Liability Insurance), (ii) be issued by one or more responsible insurance companies licensed to do business in the State of California reasonably satisfactory to Landlord, (iii) where applicable, provide for deductible amounts satisfactory to Landlord and not permit co-insurance, and (iv) each policy of "All-Risks" property insurance shall provide that the policy shall not be invalidated should the insured waive in writing prior to a loss, any or all rights of recovery against any other party for losses covered by such policies. Tenant shall deliver to Landlord, certificates of insurance (and at Landlord's request, copies of all policies and renewals thereof to be maintained by Tenant hereunder), prior to Tenant's entry into the Premises and prior to the expiration date of each policy. Additionally, Tenant shall provide Landlord written notice of any cancelation or amendment of any such insurance within two (2) business days following Tenant's knowledge of the same. If Tenant fails to carry the insurance required under this Article 16 or fails to provide certificates of renewal as and when required hereunder, Landlord may, but shall not be obligated to acquire such insurance on Tenant's behalf or Tenant's sole cost and expense.

16.3 LANDLORD'S INSURANCE

Landlord agrees to purchase and keep in full force and effect during the Term hereof, including any extensions or renewals thereof, insurance under policies issued by insurers of recognized responsibility, qualified to do business in the State of California on the Building in amounts sufficient to cover the replacement cost thereof, insuring against fire and such other risks as may be included in standard forms of all risk coverage insurance reasonably available from time to time. Landlord agrees to maintain in force during the Term, Commercial General Liability Insurance covering the Building on an occurrence basis against all claims for personal injury, bodily injury, death, and property damage. Such insurance shall be for a combined single limit (each occurrence and in the aggregate) of not less than Five Million and No/100 Dollars (35,000,000.00) (which limit may be achieved through use of umbrella coverage). Neither Landlord's obligation to carry such insurance nor the carrying of such insurance shall be deemed to be an indemnity by Landlord with respect to any claim, liability, loss, cost or expense due, in whole or in part, to Tenant's negligent acts or omissions or willful misconduct. Without obligation to do so, Landlord may, in its sole discretion from time to time, carry insurance in amounts greater and/or for coverage additional to the coverage and amounts set forth above.

16.4 WAIVER OF SUBROGATION

(a) Landlord agrees that, if obtainable at no, or minimal, additional cost, and so long as the same is permitted under the laws of the State of California, it will include in its "All Risks" policies appropriate clauses pursuant to which the insurance companies (i) waive all right of subrogation against Tenant with respect to losses payable under such policies and/or (ii) agree that such policies shall not be invalidated should the insured waive in writing prior to a loss any or all right of recovery against any party for losses covered by such policies.

(b) Tenant agrees to include, if obtainable at no, or minimal, additional cost, and so long as the same is permitted under the laws of the State of California, in its "All Risks" insurance policy or policies on Tenant Additions, whether or not removable, and on Tenant's furniture, furnishings, fixtures and other property removable by Tenant under the provisions of this Lease, appropriate clauses pursuant to which the insurance company or companies (i) waive the right of subrogation against Landlord and/or any tenant of space in the Building with respect to losses payable under such policy or policies and/or (ii) agree that such policy or policies shall not be invalidated should the insured waive in writing prior to a loss any or all right of recovery against any party for losses covered by such policy or policies. If Tenant is unable to obtain in such policy or policies either of the clauses described in the preceding sentence, Tenant shall, if legally possible and without necessitating a change in insurance carriers, have Landlord named in such policy or policies as an additional insured. If Landlord shall be named as an additional insured in accordance with the foregoing, Landlord agrees to endorse promptly to the order of Tenant, without recourse, any check, draft, or order for the payment of money representing the proceeds of any such policy or representing any other payment growing out of or connected with said policies, and Landlord does hereby irrevocably waive any and all rights in and to such proceeds and payments.

(c) Provided that Landlord's right of full recovery under its policy or policies aforesaid is not adversely affected or prejudiced thereby, Landlord hereby waives any and all right of recovery which it might otherwise have against Tenant, its servants, agents and employees, for loss or damage occurring to the Real Property and the fixtures, appurtenances and equipment therein, to the extent the same is covered by Landlord's insurance, notwithstanding that such loss or damage may result from the negligence or fault of Tenant, its servants, agents or employees. Provided that Tenant's right of full recovery under its aforesaid policy or policies is not adversely affected or prejudiced thereby, Tenant hereby waives any and all right of recovery which it might otherwise have against Landlord, its servants, and employees and against every other tenant of the Real Property who shall have executed a similar waiver as set forth in this Section 16.4 (c) for loss or damage to Tenant Additions, whether or not removable, and to Tenant's furniture, furnishings, fixtures and other property removable by Tenant under the provisions hereof to the extent the same is coverable by Tenant's insurance required under this Lease, notwithstanding that such loss or damage may result from the negligence or fault of Landlord, its servants, agents or employees, or such other tenant and the servants, agents or employees thereof.

(d) Landlord and Tenant hereby agree to advise the other promptly if the clauses to be included in their respective insurance policies pursuant to subparagraphs (a) and (b) above cannot be obtained on the terms hereinbefore provided. Landlord and Tenant hereby also agree to notify the other promptly of any cancellation or change of the terms of any such policy that would affect such clauses.

16.5 NOTICE OF CASUALTY

Tenant shall give Landlord notice in case of a fire or accident in the Premises promptly after Tenant is aware of such event.

ARTICLE 17

WAIVER OF CLAIMS AND INDEMNITY

17.1 WAIVER OF CLAIMS

To the extent permitted by Law, Tenant hereby releases the Indemnitees from, and waives all claims for, damage to person or property sustained by Tenant or any occupant of the Premises or the Property resulting directly or indirectly from any existing or future condition, defect, matter or thing in and about the Premises or the Property or any part of either or any equipment or appurtenance therein, or resulting from any accident in or about the Premises or the Property, or resulting directly or indirectly from any act or neglect of any tenant or occupant of the Property or of any other person, including Landlord's agents and servants, except to the extent caused by the gross negligence or willful and wrongful act of any of the Indemnitees. To the extent permitted by Law, Tenant hereby waives any consequential damages, compensation or claims for inconvenience or loss of business, rents, or profits as a result of such injury or damage, whether or not caused by the gross negligence or willful and wrongful act of any of the Indemnitees. If any such damage, whether to the Premises or the Property or any part of either, or whether to Landlord or to other tenants in the Property, results from any act or negligence of Tenant, its employees, servants, agents, contractors, invitees or customers. Tenant shall be liable therefor and Landlord may, at Landlord's option, repair such damage and Tenant shall, upon demand by Landlord, as payment of additional Rent hereunder, reimburse Landlord within thirty (30) days of demand for the total cost of such repairs, in excess of amounts, if any, paid to Landlord under insurance covering such damages. Tenant shall not be liable for any such damage caused by its acts or negligence if Landlord or a tenant has recovered the full amount of the damage from proceeds of insurance policies and the insurance company has waived its right of subrogation against Tenant.

17.2 INDEMNITY BY TENANT

To the extent permitted by Law, and except to the extent indemnified by Landlord under Section 17.3, Tenant hereby indemnifies, and agrees to protect, defend and hold the Indemnitees harmless, against any and all actions, claims, demands, liability, costs and expenses, including reasonable attorneys' fees and expenses for the defense thereof, arising from Tenant's occupancy of the Premises, from the undertaking of any Tenant Additions or repairs to the Premises by Tenant, from the conduct of Tenant's business on the Premises, or from any breach or default on the part of Tenant in the performance of any covenant or agreement on the part of Tenant to be performed pursuant to the terms of this Lease, or from any willful act or negligence of Tenant, its

agents, contractors, servants, employees, customers or invitees, in or about the Premises or the Property or any part of either. In case of any action or proceeding brought against the Indemnitees by reason of any such claim, upon notice from Landlord, Tenant covenants to defend such action or proceeding by counsel reasonably acceptable to Landlord. Landlord reserves the right to settle, compromise or dispose of any and all actions, claims and demands related to the foregoing indemnity. The foregoing indemnity shall not operate to relieve Indemnitees of liability to the extent such liability is caused by the willful and wrongful act of Indemnitees. Further, the foregoing indemnity is subject to and shall not diminish any waivers in effect in accordance with Section 16.4 by Landlord or its insurers to the extent of amounts, if any, paid to Landlord under its "All-Risks" property insurance. This Article 17 shall survive the expiration or earlier termination of this Lease.

17.3 INDEMNITY BY LANDLORD

To the extent permitted by Law, Landlord hereby indemnifies, and agrees to protect, defend and hold Tenant, its partners, members, directors, officers, agents and employees (the "Tenant Indemnitees") harmless, against any and all actions, claims, demands, liability, costs and expenses, including reasonable attorneys* fees and expenses for the defense thereof, arising from any willful act or the gross negligence of Landlord, in or about the Premises or the Property or any part of either. In case of any action or proceeding brought against the Tenant Indemnitees by reason of any such claim, upon notice from Tenant, Landlord covenants to defend such action or proceeding by counsel chosen by Landlord. The foregoing indemnity shall not operate to relieve Tenant Indemnitees of liability to the extent such liability is caused by the willful and wrongful act of the Tenant Indemnitees. Further, the foregoing indemnity is subject to and shall not diminish any waivers in effect in accordance with Section 16.4 by Tenant or its insurers to the extent of amounts, if any, paid to Tenant under its "All-Risks" property insurance.

17.4 WAIVER OF CONSEQUENTIAL DAMAGES

To the extent permitted by law, Tenant hereby waives and releases the Indemnitees from any consequential damages, compensation or claims for inconvenience or loss of business, rents or profits as a result of any injury or damage, whether or not caused by the willful and wrongful act of any of the Indemnitees.

ARTICLE 18

RULES AND REGULATIONS

18.1 RULES

Tenant agrees for itself and for its subtenants, employees, agents, and invitees to comply with the rules and regulations listed on Exhibit C-2 attached hereto and with all reasonable modifications and additions thereto which Landlord may make from time to time and provided to Tenant in writing, provided that such modifications and additions apply to all tenants generally and non-discriminatory manner. In the event of any conflict between such rules and regulations and any provision in this Lease, such provision of this Lease shall control.

18.2 ENFORCEMENT

Nothing in this Lease shall be construed to impose upon Landlord any duty or obligation to enforce the rules and regulations as set forth on Exhibit C-2 or as hereafter adopted, or the terms, covenants or conditions of any other lease as against any other tenant, and Landlord shall not be liable to Tenant for violation of the same by any other tenant, its servants, employees, agents, visitors or licensees. Landlord shall use reasonable efforts to enforce the rules and regulations of the Project in a uniform and non-discriminatory manner.

ARTICLE 19

LANDLORD'S RESERVED RIGHTS

Landlord shall have the following rights exercisable without notice to Tenant and without liability to Tenant for damage or injury to persons, property or business and without being deemed an eviction or disturbance of Tenant's use or possession of the Premises or giving rise to any claim for offset or abatement of Rent: (1) to change the Building's name or street address upon thirty (30) days' prior written notice to Tenant; (2) to install, affix and maintain all signs on the exterior and/or interior of the Building; (3) to designate and/or approve prior to installation, all types of signs, window shades, blinds, drapes, awnings or other similar items, and all internal lighting that may be visible from the exterior of the Premises; (4) upon reasonable written notice to Tenant, to display the Premises to prospective purchasers and lenders at reasonable hours at any time during the Term and to prospective tenants at reasonable hours during the last twelve (12) months of the Term, subject to Tenant's reasonable security and safety rules and procedures (which may include, without limitation, requiring a Tenant representative to escort visitors at all times); (5) to grant to any party the exclusive right to conduct any business or render any service in or to the Building, provided such exclusive right shall not operate to unreasonably interfere with Tenant's use of the Premises for the purpose permitted hereunder; (6) to change the arrangement and/or location of entrances or passageways, doors and doorways, corridors, elevators, stairs, washrooms or public portions of the Building, and to close entrances, doors, corridors, elevators or other facilities, provided that such action shall not materially and adversely interfere with Tenant's access to the Premises or the Building or unreasonably interfere with Tenant's use of the Preemies for the purposes permitted hereunder; (7) to have access for Landlord and other tenants of the Building to any mail chutes and boxes located in or on the Premises as required by any applicable rules of the United States Post Office; and (8) to close the Building after Standard Operating Hours, except that Tenant and its employees and invitees shall be entitled to admission at all times, under such reasonable regulations as Landlord prescribes for the Building for security purposes.

ARTICLE 20

RELOCATION OF TENANT

At any time during the Term, Landlord may substitute for the Premises, other premises in the Building, in which event the New Premises shall be deemed to be the Premises for all purposes under this Lease, provided that (i) the New Premises shall be located on higher floors in the Building than the Premises and shall be substantially similar to the Premises in area, configuration and functionality; (ii) if Tenant is then occupying the Premises, Landlord shall pay the actual and

reasonable expenses of physically moving Tenant, its property and equipment to the New Premises; (iii) Landlord shall give Tenant not less than ninety (90) days' prior written notice of such substitution; and (iv) Landlord, at its expense, shall improve the New Premises with improvements substantially similar to those in the Premises at the time of such substitution, if the Premises are then improved.

ARTICLE 21

ESTOPPEL CERTIFICATE

21.1 TENANT ESTOPPEL

Within ten (10) business days after request therefor by Landlord, Mortgagee or any prospective mortgagee or owner, Tenant agrees as directed in such request to execute an Estoppel Certificate in recordable form, binding upon Tenant, certifying (i) that this Lease is unmodified and in full force and effect (or if there have been modifications, a description of such modifications and that this Lease as modified is in full force and effect); (ii) the dates to which Rent has been paid; (iii) that Tenant is in the possession of the Premises, if that is the case; (iv) that to the best knowledge of Tenant without any duty to investigate, Landlord is not in default under this Lease (or if Tenant believes Landlord is in default, the nature thereof in detail); (v) that to the best knowledge of Tenant without any duty to investigate, Tenant has no offsets or defenses to the performance of its obligations under this Lease (or if Tenant believes there are any offsets or defenses, a full and complete explanation thereof); (vi) that the Premises have been completed in accordance with the terms and provisions hereof or the Workletter, that Tenant has accepted the Premises and the condition thereof and of all improvements thereto and has no claims against Landlord or any other party with respect thereto (or stating such exceptions thereto as applicable); (vii) that if an assignment of rents or leases has been served upon the Tenant by a Mortgagee, Tenant will acknowledge receipt thereof and agree to be bound by the reasonable provisions thereof; (viii) that Tenant will give to the Mortgagee copies of all notices required or permitted to be given by Tenant to Landlord, provided that the Mortgagee's address is provided to Tenant in writing; and (ix) to any other factual information reasonably and customarily requested.

21.2 ENFORCEMENT

In the event that Tenant fails to deliver an Estoppel Certificate within three (3) days of its receipt of a second written notice from Landlord to Tenant after the expiration of the initial ten (10) day period, then such failure shall be a Default for which there shall be no cure or grace period. In addition to any other remedy available to Landlord, Tenant shall be deemed to have irrevocably appointed Landlord as Tenant's attorney-in-fact to execute and deliver such Estoppel Certificate.

21.3 LANDLORD ESTOPPEL

Within ten (10) business days after request therefor by Tenant, Landlord shall also certify that (i) that this Lease is unmodified and in full force and effect (or if there have been modifications, a description of such modifications and that this Lease as modified is in full force and effect); (ii) the dates to which Rent has been paid; (iii) whether or not to the best knowledge of Landlord without any duty to investigate, Tenant is in default in the performance of any covenant, agreement or condition contained in this Lease and, if so, specifying each such default of which Landlord may have knowledge.

ARTICLE 22

REAL ESTATE BROKERS

Tenant represents that, except for the broker(s) listed in Section 1.1(17), Tenant has not dealt with any real estate broker, sales person, or finder in connection with this Lease, and no such person initiated or participated in the negotiation of this Lease, or showed the Premises to Tenant. Landlord represents that, except for the broker(s) listed in Section 1.1(17), Landlord has not dealt with any real estate broker, sales person, or finder in connection with this Lease, and no such person initiated or participated in the negotiation of this Lease, or showed the Premises on behalf of Landlord. Tenant hereby agrees to indemnify, protect, defend and hold Landlord and the Indemnitees, harmless from and against any and all liabilities and claims for commissions and fees arising out of a breach of the foregoing representation as well as from any claim or claims for any commission or fee by any broker or other party claiming to represent Tenant in connection with any future extensions or renewals hereof. Landlord hereby agrees to indemnify, protect, defend and hold Tenant and the Tenant Indemnitees, harmless from and against any and all liabilities and claims for commissions and fees arising out of a breach of the foregoing representation by Landlord as well as from any claim or claims for any commission or fee by any broker or other party claiming to represent Landlord in connection with any future extensions or renewals hereof. Landlord agrees to pay any commission to which the brokers listed in Section 1.1(17) are entitled in connection with this Lease pursuant to Landlord's written agreement with such broker.

ARTICLE 23

MORTGAGEE PROTECTION

23.1 SUBORDINATION AND ATTORNMENT

This Lease is and shall be expressly subject and subordinate at all times to (i) any ground or underlying lease of the Real Property, now or hereafter existing, and all amendments, extensions, renewals and modifications to any such lease, and (ii) the lien of any mortgage or trust deed now or hereafter encumbering fee title to the Real Property and/or the leasehold estate under any such lease, and all amendments, extensions, renewals, replacements and modifications of such mortgage or trust deed and/or the obligation secured thereby, unless such ground lease or ground lessor, or mortgage, trust deed or Mortgagee, expressly provides or elects that this Lease shall be superior to such lease or mortgage or trust deed. If any such mortgage or trust deed is foreclosed (including any sale of the Real Property pursuant to a power of sale), or if any such lease is terminated, upon request of the Mortgagee or ground lessor, as the case may be, Tenant shall, provided that such Mortgagee or ground lessor agrees not to disturb Tenant's rights under this Lease if Tenant is not in Default hereunder, attorn to the purchaser at the foreclosure sale or to the ground lessor under such lease, as the case may be, provided, however, that such purchaser or ground lessor shall not be (i) bound by any payment of Rent for more than one month in advance except payments in the nature of security for the performance by Tenant of its obligations under this Lease; (ii) subject to any offset, defense or damages arising out of a default of any obligations

of any preceding Landlord; (iii) bound by any amendment or modification of this Lease made without the written consent of the Mortgagee or ground lessor, or (iv) liable for any security deposits not actually received in cash by such purchaser or ground lessor. This subordination shall be self-operative and no further certificate or instrument of subordination need be required by any such Mortgagee or ground lessor. In confirmation of such subordination, however, Tenant shall execute promptly any commercially reasonable certificate or instrument that Landlord, Mortgagee or ground lessor may request. Tenant hereby constitutes Landlord as Tenant's attorney-in-fact to execute such certificate or instrument for and on behalf of Tenant upon Tenant's failure to do so within fifteen (15) days of a request to do so. Upon request by such successor in interest, Tenant shall execute and deliver reasonable instruments confirming the attornment provided for herein. The terms of this paragraph shall survive any termination of this Lease by reason of foreclosure.

During the thirty (30) day period following the Date of this Lease, Landlord shall use commercially reasonable efforts to obtain a subordination, non-disturbance and attornment agreement (a "SNDA") from the current Mortgagee in a form reasonably acceptable to Tenant; provided, however, in no event shall Landlord be in default of this Lease if, despite Landlord's exercise of commercially reasonable efforts, Landlord is unable to obtain a SNDA for Tenant from any such Mortgagee. Additionally, notwithstanding anything herein to the contrary, Tenant's obligation to subordinate this Lease to any future ground lease or mortgage as provided above is conditioned upon Landlord providing a SNDA from such future Mortgagee on the standard form provided by such Mortgagee (with such commercially reasonable modifications as may be requested by Tenant and approved by such Mortgagee).

23.2 MORTGAGEE PROTECTION

Tenant agrees to give any Mortgagee or ground lessor, by registered or certified mail, a copy of any notice of default served upon Landlord by Tenant, provided that prior to such notice Tenant has received written notice (by way of service on Tenant of a copy of an assignment of rents and leases, or otherwise) of the address of such Mortgagee or ground lessor. Tenant further agrees that if Landlord shall have failed to cure such default within the time provided for in this Lease, then the Mortgagee or ground lessor shall have an additional thirty (30) days after receipt of notice thereof within which to cure such default or if such default cannot be cured within that time, then such additional notice time as may be necessary, if, within such thirty (30) days, any Mortgagee or ground lessor has commenced and is diligently pursuing the remedies necessary to cure such default (including the commencement of foreclosure proceedings or other proceedings to acquire possession of the Real Property, if necessary to effect such cure). Such period of time shall be extended by any period within which such Mortgagee or ground lessor is prevented from commencing or pursuing such foreclosure proceedings or other proceedings to acquire possession of the Real Property by reason of Landlord's bankruptcy. Until the time allowed as aforesaid for Mortgagee or ground lessor to cure such defaults has expired without cure, Tenant shall have no right to, and shall not, terminate this Lease on account of default. This Lease may not be modified or amended so as to reduce the Rent or shorten the Term, or so as to adversely affect in any other respect to any material extent the rights of Landlord, nor shall this Lease be canceled or surrendered, without the prior written consent, in each instance, of the ground lessor or the Mortgagee. Landlord agrees to diligently use reasonable efforts to obtain such Mortgagee consents as may be required and shall promptly inform Tenant in writing upon obtaining such consents.

ARTICLE 24

NOTICES

(a) All notices, demands or requests provided for or permitted to be given pursuant to this Lease must be in writing and shall be personally delivered, sent by Federal Express or other reputable overnight courier service, or mailed by first class, registered or certified United States mail, return receipt requested, postage prepaid, or sent by electronic mail, provided that the sender also sends a hard copy of the notice within one (1) business day by one of the other methods.

(b) All notices, demands or requests to be sent pursuant to this Lease shall be deemed to have been properly given or served by delivering or sending the same in accordance with this Section, addressed to the parties hereto at their respective addresses listed in Section 1.1.

(c) Notices, demands or requests sent by mail or overnight courier service as described above shall be effective upon deposit in the mail or with such courier service. However, except with respect to a notice given under Code of Civil Procedure Section 1161 et seq., the time period in which a response to any such notice, demand or request must be given shall commence to run from (i) in the case of delivery by mail, the date of receipt on the return receipt of the notice, demand or request by the addressee thereof, or (ii) in the case of delivery by Federal Express or other overnight courier service, the date of acceptance of delivery by an employee, officer, director or partner of Landlord or Tenant. Rejection or other refusal to accept or the inability to deliver because of changed address of which no notice was given, as indicated by advice from Federal Express or other overnight courier service or by mail return receipt, shall be deemed to be receipt of notice, demand or request sent. Notices may also be served by personal service upon any officer, director or partner of Landlord or Tenant, and shall be effective upon such service.

(d) By giving to the other party at least thirty (30) days' written notice thereof, either party shall have the right from time to time during the term of this Lease to change their respective addresses for notices, statements, demands and requests, provided such new address shall be within the United States of America.

ARTICLE 25

OFAC

Landlord advises Tenant hereby that the purpose of this Article is to provide to the Landlord information and assurances to enable Landlord to comply with the law relating to OFAC.

Tenant hereby represents, warrants and covenants to Landlord, either that (i) Tenant is regulated by the SEC, FINRA or the Federal Reserve (a "Regulated Entity") or (ii) neither Tenant nor any person or entity that directly or indirectly (a) controls Tenant or (b) has an ownership interest in Tenant of twenty-five percent (25%) or more, appears on the list of Specially Designated Nationals and Blocked Persons ("OFAC List") published by the Office of Foreign Assets Control ("OFAC") of the U.S. Department of the Treasury.

If, in connection with this Lease, there is one or more Guarantors of Tenant's obligations under this Lease, then Tenant further represents, warrants and covenants either that (i) any such Guarantor is a Regulated Entity or (ii) neither Guarantor nor any person or entity that directly or indirectly (a) controls such Guarantor or (b) has an ownership interest in such Guarantor of twenty- five percent (25%) or more, appears on the OFAC List.

Tenant covenants that during the term of this Lease to provide to Landlord information reasonably requested by Landlord including without limitation, organizational structural charts and organizational documents which Landlord may deem to be necessary ("Tenant OFAC Information") in order for Landlord to confirm Tenant's continuing compliance with the provisions of this Article. Tenant represents and warrants that the Tenant OFAC Information it has provided or to be provided to Landlord or Landlord's Broker in connection with the execution of this Lease is true and complete.

ARTICLE 26

MISCELLANEOUS

26.1 LATE CHARGES

(a) All payments required hereunder (other than the Monthly Base Rent, Rent Adjustments, and Rent Adjustment Deposits, which shall be due as hereinbefore provided) to Landlord shall be paid within ten (10) days after Landlord's demand therefor if not otherwise set forth in this Lease. All such amounts (including Monthly Base Rent, Rent Adjustments, and Rent Adjustment Deposits) not paid when due shall bear interest from the date due until the date paid at the Default Rate in effect on the date such payment was due.

(b) In the event Tenant is more than five (5) days late in paying any installment of Rent due under this Lease, Tenant shall pay Landlord a late charge equal to five percent (5%) of the delinquent installment of Rent. The parties agree that (i) such delinquency will cause Landlord to incur costs and expenses not contemplated herein, the exact amount of which will be difficult to calculate, including the cost and expense that will be incurred by Landlord in processing each delinquent payment of rent by Tenant, (b) the amount of such late charge represents a reasonable estimate of such costs and expenses and that such late charge shall be paid to Landlord for each delinquent payment in addition to all Rent otherwise due hereunder. The parties further agree that the payment of late charges and the payment of interest provided for in subparagraph (a) above are distinct and separate from one another in that the payment of interest is to compensate Landlord for its inability to use the money improperly withheld by Tenant, while the payment of late charges is to compensate Landlord for its additional administrative expenses in handling and processing delinquent payments.

(c) Payment of interest at the Default Rate and/or of late charges shall not excuse or cure any default by Tenant under this Lease, nor shall the foregoing provisions of this Article or any such payments prevent Landlord from exercising any right or remedy available to Landlord upon Tenant's failure to pay Rent when due, including the right to terminate this Lease.

26.2 NO JURY TRIAL; VENUE; JURISDICTION

To the fullest extent permitted by law, including laws enacted after the Commencement Date, each party hereto (which includes any assignee, successor, heir or personal representative of a party) shall not seek a jury trial, hereby waives trial by jury, and hereby further waives any objection to venue in the County in which the Project is located, and agrees and consents to personal jurisdiction of the courts of the State of California, in any action or proceeding or counterclaim brought by any party hereto against the other on any matter whatsoever arising out of or in any way connected with this Lease, the relationship of Landlord and Tenant, Tenant's use or occupancy of the Premises, or any claim of injury or damage, or the enforcement of any remedy under any statute, emergency or otherwise, whether any of the foregoing is based on this Lease or on tort law. No party will seek to consolidate any such action in which a jury has been waived with any other action in which a jury trial cannot or has not been waived. It is the intention of the parties that these provisions shall be subject to no exceptions. The provisions of this Section shall survive the expiration or earlier termination of this Lease.

26.3 NO DISCRIMINATION

Tenant agrees for Tenant and Tenant's heirs, executors, administrators, successors and assigns and all persons claiming under or through Tenant, and this Lease is made and accepted upon and subject to the following conditions: that there shall be no discrimination against or segregation of any person or group of persons on account of race, color, creed, religion, sex, marital status, national origin or ancestry (whether in the leasing, subleasing, transferring, use, occupancy, tenure or enjoyment of the Premises or otherwise) nor shall Tenant or any person claiming under or through Tenant establish or permit any such practice or practices of discrimination or segregation with reference to the use or occupancy of the Premises by Tenant or any person claiming through or under Tenant.

26.4 FINANCIAL STATEMENTS

Within ten (10) days after written request from Landlord from time to time during the Term (not more than once per any 12-month period), Tenant shall provide Landlord with current financial statements setting forth Tenant's financial condition and net worth for the most recent quarter, including balance sheets and statements of profits and losses. Such statements shall be prepared by an independent accountant and certified by Tenant's president, chief executive officer or chief financial officer. Landlord shall keep such financial information confidential and shall only disclose such information to Landlord's lenders, consultants, purchasers or investors, or other agents (who shall be subject to the same confidentiality obligations) on a need to know basis **in** connection with the administration of this Lease. Notwithstanding the foregoing, Tenant shall have no obligation to deliver any financial statements so long as Tenant is a publicly traded entity and its financial statements are publicly available.

26.5 OPTION

This Lease shall not become effective as a lease or otherwise until executed and delivered by both Landlord and Tenant. The submission of this Lease to Tenant does not constitute a reservation of or option for the Premises, but when executed by Tenant and delivered to Landlord, this Lease shall constitute an irrevocable offer by Tenant in effect for fifteen (15) days to lease the Premises on the terms and conditions herein contained.

26.6 TENANT AUTHORITY

Tenant represents and warrants to Landlord that it has full authority and power to enter into and perform its obligations under this Lease, that the person executing this Lease is fully empowered to do so, and that no consent or authorization is necessary from any third party. Landlord may request that Tenant provide Landlord evidence of Tenant's authority.

26.7 LANDLORD AUTHORITY

Landlord represents and warrants to Tenant that it has full authority and power to enter into and perform its obligations under this Lease, that the person executing this Lease is fully empowered to do so, and that no consent or authorization is necessary from any third party (or, if required, such consent has been obtained by Landlord).

26.8 ENTIRE AGREEMENT

This Lease, the exhibits, schedules, and riders attached hereto contain the entire agreement between Landlord and Tenant concerning the Premises and there are no other agreements, either oral or written, and no other representations or statements, either oral or written, on which Tenant has relied. This Lease shall not be modified except by a writing executed by Landlord and Tenant.

26.9 MODIFICATION OF LEASE FOR BENEFIT OF MORTGAGEE

If Mortgagee of Landlord requires a modification of this Lease which shall not result in any increased cost or expense to Tenant or in any other substantial and adverse change in the rights and obligations of Tenant hereunder, then Tenant agrees that this Lease may be so modified.

26.10 EXCULPATION

Tenant agrees, on its behalf and on behalf of its successors and assigns, that any liability or obligation under this Lease shall only be enforced against Landlord's equity interest in the Property up to a maximum of Twenty Million Dollars ($20,000,000.00) and in no event against any other assets of Landlord, or Landlord's members, officers or directors or partners, and that any liability of Landlord with respect to this Lease shall be so limited and Tenant shall not be entitled to any judgment in excess of such amount. Notwithstanding anything to the contrary contained herein, in no event shall Landlord be liable to Tenant for consequential, punitive or special damages with respect to this Lease.

26.11 ACCORD AND SATISFACTION

No payment by Tenant or receipt by Landlord of a lesser amount than any installment or payment of Rent due shall be deemed to be other than on account of the amount due, and no endorsement or statement on any check or any letter accompanying any check or payment of Rent shall be deemed an accord and satisfaction, and Landlord may accept such check or payment without prejudice to Landlord's right to recover the balance of such installment or payment of Rent or pursue any other remedies available to Landlord. No receipt of money by Landlord from Tenant after the termination of this Lease or Tenant's right of possession of the Premises shall reinstate, continue or extend the Term. Receipt or acceptance of payment from anyone other than Tenant, including an assignee of Tenant, is not a waiver of any breach of Article 10, and Landlord may accept such payment on account of the amount due without prejudice to Landlord's right to pursue any remedies available to Landlord.

26.12 LANDLORD'S OBLIGATIONS ON SALE OF BUILDING

In the event of any sale or other transfer of the Building, subject to purchaser's assumption of Landlord's obligations under this Lease accruing or to be performed after the date of such sale or transfer, Landlord shall be entirely freed and relieved of all agreements and obligations of Landlord hereunder accruing or to be performed after the date of such sale or transfer, and any remaining liability of Landlord with respect to this Lease shall be limited to the dollar amount specified in Section 26.10 and Tenant shall not be entitled to any judgment in excess of such amount.

26.13 BINDING EFFECT

Subject to the provisions of Article 10, this Lease shall be binding upon and inure to the benefit of Landlord and Tenant and their respective heirs, legal representatives, successors and permitted assigns.

26.14 CAPTIONS

The Article and Section captions in this Lease are inserted only as a matter of convenience and in no way define, limit, construe, or describe the scope or intent of such Articles and Sections.

26.15 TIME; APPLICABLE LAW; CONSTRUCTION

Time is of the essence of this Lease and each and all of its provisions. This Lease shall be construed in accordance with the Laws of the State of California. If any term, covenant or condition of this Lease or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, the remainder of this Lease, or the application of such term, covenant or condition to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby and each item, covenant or condition of this Lease shall be valid and be enforced to the fullest extent permitted by Law, Wherever the term "including" or "includes" is used in this Lease, it shall have the same meaning as if followed by the phrase "but not limited to". The language in all parts of this Lease shall be construed according to its normal and usual meaning and not strictly for or against either Landlord or Tenant.

26.16 ABANDONMENT

In the event Tenant abandons the Premises but is otherwise in compliance with all the terms, covenants and conditions of this Lease, Landlord shall (i) have the right to enter into the Premises in order to show the space to prospective tenants, (ii) have the right to reduce the services provided to Tenant pursuant to the terms of this Lease to such levels as Landlord reasonably determines to be adequate services for an unoccupied premises, and (iii) during the last six (6) months of the Term, have the right to prepare the Premises for occupancy by another tenant upon the end of the Term. Tenant expressly acknowledges that in the absence of written notice pursuant to Section 11.2(b) or pursuant to California Civil Code Section 1951.3 terminating Tenant's right defenses to the enforcement of the terms of this Lease based on such telecopied or e-mailed signatures. Promptly following request by either party, the other party shall provide the requesting party with original signatures on this Lease.

26.23 EXHIBITS, SCHEDULES AND RIDERS

All exhibits, schedules, riders and/or addenda referred to in this Lease as an exhibit, schedule, rider, or addenda hereto, or attached hereto, are hereby incorporated into and made a part of this Lease.

[Signatures on Following Page]

IN WITNESS WHEREOF, this Lease has been executed as of the date set forth in Section 1.1(4) hereof.

TENANT:

Dynavax Technologies Corporation,
a Delaware corporation

By: /s/ Eddie Gray
Print Name: Eddie Gray
Its: Chief Executive Officer

By: /s/ Michael Ostrach
Print Name: Michael Ostrach
Its: Senior Vice President, Chief Financial Officer and Chief Business Officer

LANDLORD:

Emery Station West, LLC,
a California limited liability company

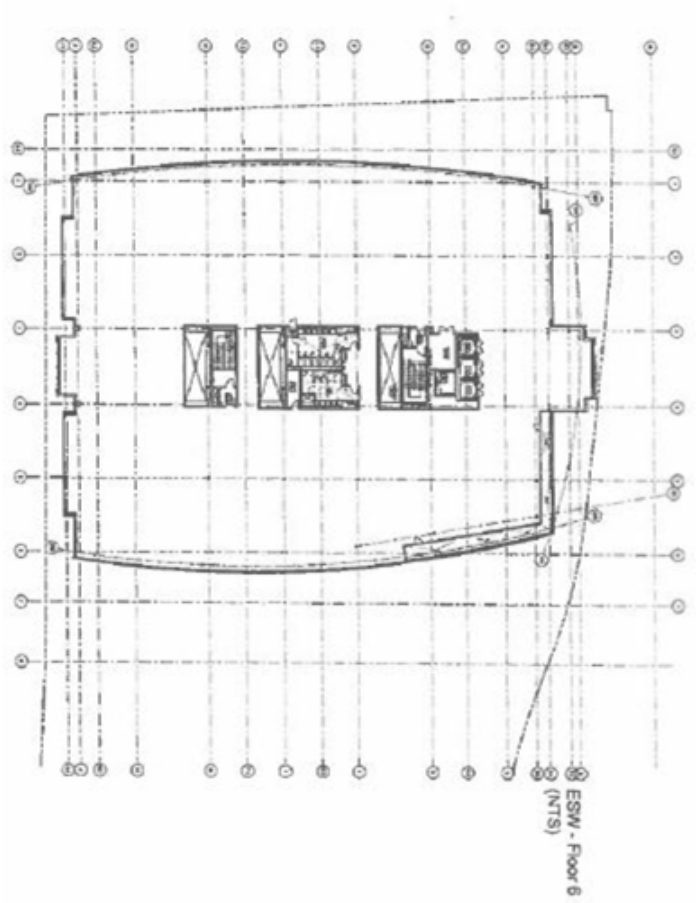
By: ES West Associates, LLC
a California limited liability company,
its Managing Member

By: Wareham-NZL, LLC
a California limited liability company,
its Member

By: /s/ Richard K. Robbins
Richard K. Robbins
Manager

EXHIBIT A

OUTLINE OF PREMISES



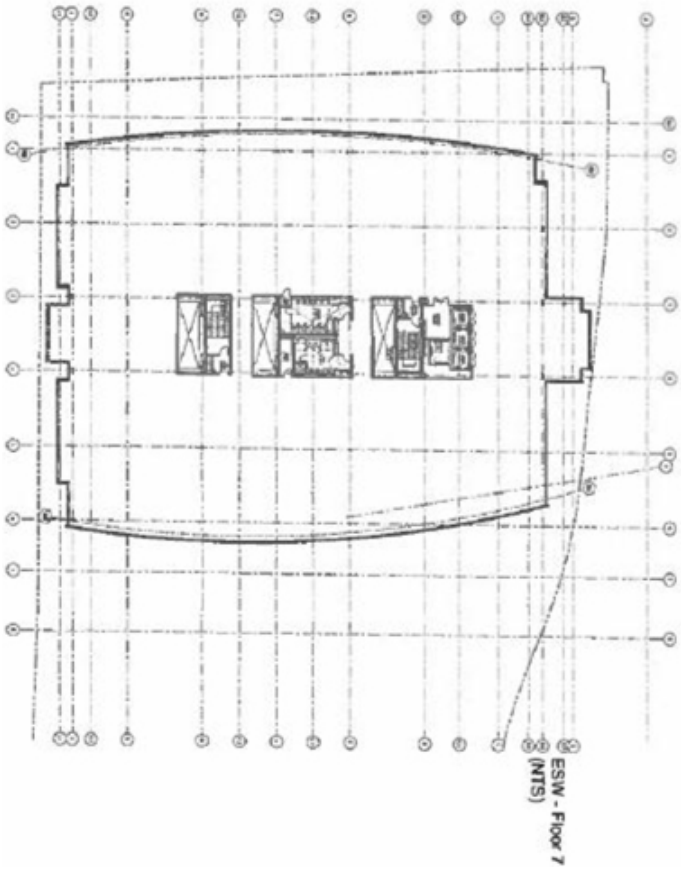


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EXHIBIT B

WORKLETTER

THIS WORKLETTER (this "**Workletter**") is attached to and made a part of that certain Lease (the "**Lease**") between EMERY STATION WEST, LLC, a California limited liability company ("**Landlord**"), and DYNAVAX TECHNOLOGIES CORPORATION, a Delaware corporation ("**Tenant**"). All capitalized terms used but not defined herein shall have the respective meanings given such terms in the Lease. This Workletter sets forth the terms and conditions relating to the construction of Tenant Improvements (defined below) in the Premises.

SECTION 1

ALLOWANCE; TENANT IMPROVEMENTS

1.1 Allowance. Tenant shall be entitled to an allowance (the "**Tenant Improvement Allowance**") in an amount not to exceed $110.00 per square foot of Rentable Area of the Premises for the costs relating to the design, permitting and construction of Tenant's improvements which will be permanently affixed to the Premises in accordance with this Workletter (the "**Tenant Improvements**"). In no event will Landlord be obligated to make disbursements pursuant to this Workletter in a total amount which exceeds the Tenant Improvement Allowance. Tenant agrees that it shall commence the Tenant Improvements promptly following the Commencement Date and diligently proceed to complete the same. Tenant must submit Payment Request Supporting Documentation (defined below) for such work in accordance with this Workletter no later than April 1, 2020, after which date Landlord's obligation to fund such costs shall expire.

1.2 Disbursement of the Tenant Improvement Allowance.

(a) Tenant Improvement Allowance Items. Except as otherwise set forth in this Workletter, the Tenant Improvement Allowance shall be disbursed by Landlord only for the following items and costs (collectively the "**Tenant Improvement Allowance Items**"):

(i) Payment of the fees of the Architect and the Building Consultants (as those terms are defined below) and payment of fees and costs reasonably incurred by Landlord for the review of the Construction Drawings (defined below) by Landlord or by Landlord's third party consultants;

(ii) The payment of plan check, permit and license fees relating to the Tenant Improvements, including, without limitation, taxes, fees, charges and levies by governmental agencies;

(iii) The cost of construction of the Tenant Improvements, including, without limitation, costs and expenses for labor, materials, equipment and fixtures, after hours charges, testing and inspection costs, freight elevator usage, trash removal costs, any other services provided by third parties unaffiliated with Tenant in connection with the construction and contractors' fees and general conditions;

(iv) The cost of any changes to the Building when such changes are required by the Construction Drawings, such cost to include all direct architectural and/or engineering fees and expenses incurred in connection therewith;

(v) The cost of any changes to the Construction Drawings (defined below) or Tenant Improvements required by applicable laws, including, without limitation, building codes (collectively, "**Code**"); and

(vi) The Coordination Fee (defined below).

(b) Disbursement of Tenant Improvement Allowance. During the design and construction of the Tenant Improvements, Landlord shall make periodic disbursements (no more often than once per month) of the Tenant Improvement Allowance to reimburse Tenant for Tenant Improvement Allowance Items and shall authorize the release of funds as follows.

(i) To request a periodic disbursement, Tenant shall deliver to Landlord: (A) a request for payment from Contractor (defined below) approved by Tenant, in a reasonable form to be provided or approved in advance by Landlord, including a schedule of values and showing the percentage of completion, by trade, of the Tenant Improvements, which details the portion of the work completed and the portion not completed; (B) invoices from all of Tenant's Agents (defined below) for labor rendered and materials delivered to the Premises; (C) executed conditional mechanic's lien releases from all of Tenant's Agents who have lien rights with respect to the subject request for payment (along with unconditional mechanics' lien releases with respect to payments made pursuant to Tenant's prior submission hereunder) in compliance with all applicable laws; (D) if not already supplied to Landlord, a copy of the construction permits referenced in Section 3.2(a) below; and (E) all other information reasonably requested by Landlord (collectively, the "**Payment Request Supporting Documentation**").

(ii) Within forty (40) days after Tenant's delivery to Landlord of all Payment Request Supporting Documentation, Landlord shall deliver to Tenant payment in an amount equal to the lesser of: (x) the amount so requested by Tenant, as set forth in Section **1** -2(b)(i) above, less (i) the applicable Over-Tenant Improvement Allowance Amount (defined in Section 3.2(a) below and (ii) a ten percent (10%) retention (the aggregate amount of such retentions to be known as the "**Final Retention**"), and (y) the balance of any remaining available portion of the Tenant Improvement Allowance (not including the Final Retention), provided that if Landlord, in good faith, disputes any item in a request for payment based on non-compliance of any work with the Approved Working Drawings (defined below) or due to any substandard work (reasonably determined by Landlord) and delivers a written objection to such item setting forth with reasonable particularity Landlord's reasons for its dispute (a "**Draw Dispute Notice**") within ten (10) days following Tenant's submission of its Payment Request Supporting Documentation, Landlord may deduct the amount of such disputed item from the payment. Landlord and Tenant shall, in good faith, endeavor to diligently resolve any such dispute. Landlord's payment of such amounts shall not be deemed Landlord's approval or acceptance of the work furnished or materials supplied as set forth in Tenant's payment request.

(iii) Subject to the provisions of this Work Agreement, following the final completion of construction of the Tenant Improvements, Landlord shall deliver to Tenant a check made payable to Tenant, or a check or checks made payable to another party or parties as reasonably requested by Tenant, in the amount of the Final Retention, provided that (A) Tenant delivers to Landlord properly executed unconditional mechanics' lien releases from all of Tenant's Agents in compliance with all applicable laws, as reasonably determined by Landlord; (B) Landlord has determined in good faith that no substandard work exists which adversely affects die mechanical, electrical, plumbing, heating, ventilating and air conditioning, life-safety or other systems of the Building, the curtain wall of the Building, the structure or exterior appearance of the Building; (C) Architect delivers to Landlord a certificate, in a form reasonably acceptable to Landlord, certifying that the construction of the Tenant Improvements has been finally completed; (D) Tenant supplies Landlord with evidence that all governmental approvals required for an occupant to legally occupy the Premises has been obtained; and (E) Tenant has fulfilled its Completion Obligations (defined below) and has otherwise complied with Landlord's standard "close-out" requirements regarding city approvals, closeout tasks, closeout documentation regarding the general contractor, financial close-out matters, and Tenant's vendors.

SECTION 2

CONSTRUCTION DRAWINGS

2.1 Selection of Architect; Construction Drawings. Tenant shall retain DGA Architects (the "**Architect**") to prepare the Construction Drawings. Such approval shall be granted or denied within three (3) business days upon request, and Landlords* failure to respond within such three (3) business day period shall be deemed approval by Landlord. Tenant shall retain engineering consultants approved in writing, in advance by Landlord, such approval not to be unreasonably withheld (the "**Building Consultants**") to prepare all plans and engineering working drawings and perform all work relating to mechanical, electrical and plumbing ("**MEP**"), HVAC/Air Balancing, life-safety, structural, sprinkler and riser work. Landlord acknowledges its pre-approval of the following Building Consultants:

MEP:	Interface
Structural:	Rutherford & Chekene.

The plans and drawings to be prepared by Architect and the Building Consultants hereunder (i.e., both the Space Plan and the Working Drawings, as each term is defined below) shall be known collectively as the "**Construction Drawings**." All Construction Drawings shall comply with the drawing format and specifications reasonably determined or approved by Landlord and shall be subject to Landlord's prior written approval, not to be unreasonably withheld, conditioned or delayed. Such approval shall be granted or denied within ten (10) business days after delivery to Landlord, and Landlord's failure to respond within such ten (10) business day period, if such failure continues following a second, five (5) business day notice, shall be deemed approval by Landlord. Any disapproval of the Construction Drawings shall accompany Landlord's detailed reasons for such disapproval. All MEP drawings must be fully engineered and cannot be prepared on a "design-build" basis. Landlord's review of the Construction Drawings shall be for its sole purpose and shall not obligate Landlord to review the same, for quality, design, Code compliance or other like matters. Accordingly, notwithstanding that any Construction Drawings are reviewed by Landlord or its space planner, architect, engineers and consultants, and notwithstanding any advice or assistance which may be rendered to Tenant by Landlord or Landlord's space planner, architect, engineers, and consultants, Landlord shall have no liability whatsoever in connection therewith and shall not be responsible for any omissions or errors contained in the Construction Drawings.

2.2 Space Plan. Tenant shall supply Landlord for Landlord's review and approval with four (4) copies signed by Tenant of its space plan for the Premises (the "**Space Plan**") before any architectural working drawings or engineering drawings have been commenced. The Space Plan shall include a layout and designation of all laboratory facilities, offices, rooms and other partitioning, their intended use, and equipment to be contained therein. Landlord may request clarification or more specific drawings for special use items not included in the Space Plan. Landlord shall advise Tenant within five (5) business days after Landlord's receipt of the Space Plan (or, if applicable, such additional information reasonably requested by Landlord pursuant to the provisions of the immediately preceding sentence) if the same is approved or is unsatisfactory or incomplete in any respect, and any disapproval of the Space Plan shall accompany Landlord's detailed reasons for such disapproval. Upon any disapproval by Landlord, Tenant shall promptly cause the Space Plan to be revised to correct any deficiencies or other matters Landlord may reasonably require and deliver such revised Space Plan to Landlord. Landlord's failure to respond within five (5) business days thereafter, if such failure continues following a second, three (3) business day notice, shall be deemed approval by Landlord.

2.3 Working Drawings. After the Space Plan has been approved by Landlord, Tenant shall cause the Architect and the Engineers to promptly complete the architectural and engineering drawings, and Architect shall compile a fully coordinated set of drawings, including but not limited to architectural, structural, mechanical, electrical, plumbing, fire sprinkler and life safety in a form which is complete to allow subcontractors to bid on the work and to obtain all applicable permits (collectively, the "**Working Drawings**") and shall submit the same to Landlord for Landlord's review and approval (such approved Working Drawings, "**Approved Working Drawings**"). Tenant shall supply Landlord with four (4) copies signed by Tenant of the Working Drawings. Landlord shall advise Tenant within ten (10) business days after Landlord's receipt of the Working Drawings if Landlord, in good faith, determines that the same are approved or are unsatisfactory or incomplete, and any disapproval of the Working Drawings shall accompany Landlord's detailed reasons for such disapproval. If Tenant is so advised. Tenant shall promptly revise the Working Drawings to correct any deficiencies or other matters Landlord may reasonably require and deliver such revised Working Drawing to Landlord. Landlord's failure to respond within five (5) business days thereafter, if such failure continues following a second, three (3) business day notice, shall be deemed approval by Landlord.

2.4 Landlord's Approval. Tenant acknowledges that it shall be deemed reasonable for Landlord to disapprove the Space Plan and any subsequent Working Drawings unless, at a minimum, the same are prepared on the basis that they will only utilize the appropriate pro-rated share of building systems capacity made available by Landlord for tenant usage in the building (including, but not limited to, the HVAC equipment, electrical power, fire sprinkler, emergency electrical power), (b) the Tenant Improvements as specified and designed comply with the requirements of the Project's Sustainability Practices and the applicable Green Building Standards set forth in Exhibit B-l attached hereto, and (c) the sprinkler systems shall be designed in compliance with the specifications provided by FM Global. Additionally, Landlord's approval of any matter under this Workletter may be withheld if Landlord reasonably determines that the same would violate any provision of the Lease or this Workletter or would adversely affect the mechanical, electrical, plumbing, heating, ventilating and air conditioning, life-safety or other systems of the Building, the curtain wall of the Building, the structure or exterior appearance of the Building.

2.5 Changes to the Working Drawings. Any changes to the Approved Working Drawings (each, a "**Change**") shall be requested and instituted in accordance with the provisions of this Section 2.5 and shall be subject to the written approval of the non-requesting party in accordance with this Workletter.

(a) Either Landlord or Tenant may request Changes after Landlord approves the Working Drawings by notifying the other party thereof in writing in substantially the same form as the AIA standard change order form (a "**Change Request**"), which Change Request shall detail the nature and extent of any requested Changes, including (i) the Change, and (ii) any modification of the Approved Working Drawings, as applicable, necessitated by the Change. If the nature of a Change requires revisions to the Approved Working Drawings, then Tenant shall be solely responsible for the cost and expense of such revisions and any increases in the cost of the Tenant Improvements as a result of such Change. Change Requests shall be signed by the requesting party's representative. Landlord shall only request a Change if it reasonably believes that such Change is necessary to comply with applicable Laws, to prevent a material adverse impact on the Building's systems or to address a material Building structural issue.

(b) All Change Requests shall be subject to the other party's prior written approval, which approval shall not be unreasonably withheld, conditioned or delayed. The non-requesting party shall have three (3) business days after receipt of a Change Request to notify the requesting party in writing of the non-requesting party's decision either to approve or object to the Change Request. The non-requesting party's failure to respond within such three (3) business day period shall be deemed approval by the non-requesting party.

SECTION 3

CONSTRUCTION OF THE TENANT IMPROVEMENTS

3.1 Tenant's Selection of Contractors.

(a) The Contractor. Tenant will retain Dome Construction as a general contractor to construct the Tenant Improvements ("**Contractor**").

(b) Tenant's Agents. A list of all subcontractors, laborers, materialmen, and suppliers used by Tenant (such subcontractors, laborers, materialmen, and suppliers, and the Contractor to be known collectively as "**Tenant's Agents**") must be provided to Landlord, provided that Landlord will require Tenant to retain the Building Consultants. Tenant shall contract with Landlord's base building subcontractors for any mechanical, electrical, plumbing, life safety, structural or HVAC work in the Premises. All of Tenant's Agents shall be licensed in the State of California, capable of being bonded and union-affiliated in compliance with all then existing master labor agreements.

3.2 Construction of Tenant Improvements by Tenant's Agents.

(a) Construction Contract. Prior to Tenant's execution of the construction contract and general conditions with Contractor (the "**Contract**"), Tenant shall submit the Contract to Landlord for its approval, which approval shall not be unreasonably withheld, conditioned or delayed. Landlord shall have three (3) business days upon receipt of the Contract to either grant or deny its approval, and Landlord's failure to respond within such three (3) business day period shall be deemed approval by Landlord. Prior to the commencement of the construction of the Tenant Improvements, Tenant shall provide Landlord with a schedule of values consisting of a detailed breakdown, by trade, of the final costs to be incurred or which have been incurred, for all Tenant Improvement Allowance Items in connection with the design and construction of the Tenant Improvements, which costs form the basis for the amount of the Contract ("**Final Costs**"). Prior to the commencement of construction of the Tenant Improvements, Landlord and Tenant shall identify the amount equal to the difference between the amount of the Final Costs and the amount of the Tenant Improvement Allowance (less any portion thereof already disbursed by Landlord, or in the process of being disbursed by Landlord, on or before the commencement of construction of the Tenant Improvements), the "**Over-Allowance Amount**", and Landlord will reimburse Tenant on a monthly basis, as described in Section 1.2(b)(ii) above, for a percentage of each amount requested by the Contractor or otherwise to be disbursed under this Workletter, which percentage shall be equal to the Tenant Improvement Allowance divided by the amount of the Final Costs (after deducting from the Final Costs any amounts expended in connection with the preparation of the Construction Drawings, and the cost of all other Tenant Improvement Allowance Items incurred prior to the commencement of construction of the Tenant Improvements), and Tenant shall be solely responsible for any Over-Allowance Amount. If, after the Final Costs have been initially determined, the costs relating to the design and construction of the Tenant Improvements shall change, any additional costs for such design and construction in excess of the Final Costs shall be added to the Over-Allowance Amount and the Final Costs, and Landlord's reimbursement percentage, shall be recalculated in accordance with the terms of the immediately preceding sentence. Notwithstanding anything set forth herein to the contrary, construction of the Tenant Improvements shall not commence until Tenant has procured and delivered to Landlord a copy of all permits necessary for commencement of construction of the Tenant Improvements.

(b) Construction Requirements.

(i) Landlord's General Conditions for Tenant's Agents and Tenant Improvement Work. Construction of the Tenant Improvements shall comply with the following: (A) the Tenant Improvements shall be constructed in strict accordance with the Approved Working Drawings and Landlord's then-current published construction guidelines; (B) Tenant's Agents shall submit schedules of all work relating to the Tenant Improvements to Landlord and Landlord shall, within five (5) business days of receipt thereof, inform Tenant's Agents of any changes which are necessary thereto, and Tenant's Agents shall adhere to such corrected schedule; and (C) Tenant shall abide by all reasonable and non-discriminatory rules made and provided to Tenant in writing by Landlord's Building manager with respect to the use of contractor parking, materials delivery, freight, loading dock and service elevators, any required shutdown of utilities (including life-safety systems), storage of materials, coordination of work with the contractors of Landlord, and any other matter in connection with this Workletter, including, without limitation, the construction of the Tenant Improvements, provided that such rules shall not include additional charge for the use of freight, loading dock and service elevators or storage of materials. Tenant shall pay an oversight and supervisory fee (the "**Coordination Fee**") to Landlord in an amount equal to one percent (1.0%) of the Final Costs.

(ii) Indemnity. Tenant's indemnity of Landlord as set forth in the Lease shall also apply with respect to any and all costs, losses, damages, injuries and liabilities related in any way to any act or omission of Tenant or Tenant's Agents, or anyone directly or indirectly employed by any of them, or in connection with Tenant's non-payment of any amount arising out of the Tenant Improvements and/or Tenant's disapproval of all or any portion of any request for payment. Such indemnity by Tenant, as set forth in the Lease, shall also apply with respect to any and all costs, losses, damages, injuries and liabilities related in any way to Landlord's performance of any ministerial acts reasonably necessary (A) to permit Tenant to complete the Tenant Improvements, and (B) to enable Tenant to obtain any related building permit or certificate of occupancy; provided, however, nothing contained in this Workletter shall be deemed to indemnify Landlord from or against liability caused solely by Landlord's negligence or willful misconduct.

(iii) Requirements of Tenant's Agents. Each of Tenant's Agents shall guarantee to Tenant and for the benefit of Landlord that the portion of the Tenant Improvements for which it is responsible shall be free from any defects in workmanship and materials for a period of not less than one (1) year from the date of completion thereof. Each of Tenant's Agents shall be responsible for the replacement or repair, without additional charge, of all work done or furnished in accordance with its contract that shall become defective within one (1) year after the completion of the work performed by such contractor or subcontractor. The correction of such work shall include, without additional charge, all additional expenses and damages incurred in connection with the removal or replacement of all or any part of the Tenant Improvements, and/or the Building and/or common areas that are damaged or disturbed thereby. All such warranties or guarantees as to materials or workmanship of or with respect to the Tenant Improvements shall be contained in the Contract or subcontract and shall be written such that such guarantees or warranties shall inure to the benefit of both Landlord and Tenant, as their respective interests may appear, and can be directly enforced by either. Tenant covenants to give to Landlord any assignment or other assurances as may be necessary to effect such right of direct enforcement.

(c) Insurance Requirements.

(i) General Coverages. All of Tenant's Agents shall cany employer's liability and worker's compensation insurance covering all of their respective employees, and shall also carry commercial general liability insurance, including personal and bodily injury, property damage and completed operations liability, all with limits, in form and with companies as are required to be carried by Tenant as set forth in the Lease.

(ii) Special Coverages. Tenant or Contractor shall carry "Builder's All Risk" insurance in an amount approved by Landlord covering the construction of the Tenant Improvements, and such other insurance as Landlord may require, it being understood and agreed that the Tenant Improvements shall be insured by Tenant pursuant to the Lease immediately upon completion thereof. Such insurance shall be in amounts and shall include such extended coverage endorsements as may be reasonably required by Landlord, and shall be in form and with companies as are required to be carried by Tenant as set forth in the Lease.

(iii) General Terms. Certificates for all of the foregoing insurance coverage shall be delivered to Landlord before the commencement of construction of the Tenant Improvements and before the Contractor's equipment is moved onto the site. All such policies of insurance must contain a provision that the company writing said policy will endeavor to give Landlord thirty (30) days' prior written notice of any cancellation of such insurance. In the event that the Tenant Improvements are damaged by any cause during the course of the construction thereof, Tenant shall immediately repair the same at Tenant's sole cost and expense. Tenant's Agents shall maintain all of the foregoing insurance coverage in force until the Tenant Improvements are fully completed and accepted by Landlord, except for any Products and Completed Operations Coverage insurance required by Landlord, which is to be maintained for one (1) year following completion of the work and acceptance by Landlord and Tenant. All policies carried hereunder shall insure Landlord, Wareham Property Group as Landlord's manager, and Tenant, as their interests may appear, as well as Tenant's Agents. All insurance, except Workers' Compensation, maintained by Tenant's Agents shall preclude subrogation claims by the insurer against anyone insured thereunder. Such insurance shall provide that it is primary insurance as respects Landlord and Tenant and that any other insurance maintained by Landlord or Tenant is excess and noncontributing with the insurance required hereunder. The requirements for the foregoing insurance shall not derogate from the provisions for indemnification of Landlord by Tenant under the Lease and/or this Workletter.

(d) Governmental Compliance. The Tenant Improvements shall comply in all respects with the following: (i) the Code and other applicable federal, state, city and/or quasi- governmental laws, codes, ordinances and regulations, as each may apply according to the rulings of the controlling public official, agent or other person or entity; (ii) applicable standards of the American Insurance Association (formerly, the National Board of Fire Underwriters) and the National Electrical Code; (iii) building material manufacturer's specifications, and (iv) the Project's Sustainability Practices and the applicable Green Building Standards as set forth in Exhibit B-l. Landlord Work shall comply with all respects with the following: (i) the Code and other applicable federal, state, city and/or quasi-governmental laws, codes, ordinances and regulations, as each may apply according to the rulings of the controlling public official, agent or other person or entity; (ii) applicable standards of the American Insurance Association (formerly, the National Board of Fire Underwriters) and the National Electrical Code; and (iii) building material manufacturer's specifications.

(e) Inspection by Landlord. Landlord shall have the right to inspect the Tenant Improvements during normal business hours upon no less than 48 hours' advance notice, provided however, that Landlord's failure to inspect the Tenant Improvements shall in no event constitute a waiver of any of Landlord's rights hereunder nor shall Landlord's inspection of the Tenant Improvements constitute Landlord's approval of the same. Should Landlord disapprove any portion of the Tenant Improvements, Landlord shall notify Tenant in writing of such disapproval and shall specify the items disapproved and the reasons therefor. Any defects or deviations in, and/or disapproval by Landlord of, the Tenant Improvements shall be rectified by Tenant at no expense to Landlord, provided however, that in the event Landlord determines that a defect or deviation exists or disapproves of any matter in connection with any portion of the Tenant Improvements and such defect, deviation or matter might adversely affect the mechanical, electrical, plumbing, heating, ventilating and air conditioning or life-safety systems of the Building, the structure or exterior appearance of the Building or any other tenant's use of such

other tenant's leased premises, and Tenant fails to commence to remedy the same within thirty (30) days after Landlord's written notice thereof or Tenant fails to diligently execute the same to completion, Landlord may take such action as Landlord deems necessary, at Tenant's expense and without incurring any liability on Landlord's part, to correct any such defect, deviation and/or matter, including, without limitation, causing the cessation of performance of the construction of the Tenant Improvements until such time as the defect, deviation and/or matter is corrected to Landlord's reasonable satisfaction.

(f) Meetings. Tenant shall hold periodic meetings at a reasonable time with the Architect and the Contractor regarding the progress of the preparation of the Construction Drawings and the construction of the Tenant Improvements, which meetings shall be held at the Premises (unless otherwise notified by Tenant to Landlord), and Landlord and/or its agents shall receive prior written notice of, and shall have the right to attend, all such meetings. Upon Landlord's reasonable request, certain of Tenant's Agents shall attend such meetings. In addition, minutes shall be taken at all such meetings, and Landlord will be included in the distribution list for such minutes. One such meeting each month shall include the review of Contractor's current request for payment.

3.3 Notice of Completion; Copy of Record Set of Plans. Following completion of construction of the Tenant Improvements, Landlord shall cause a Notice of Completion to be recorded in the office of the Recorder of Alameda County and shall furnish a copy thereof to Tenant. Within thirty (30) days following the completion of construction, (i) Tenant shall cause the Architect and Contractor (A) to update the Approved Working Drawings as necessary to reflect all changes made to the Approved Working Drawings during the course of construction, (B) to certify to the best of their knowledge that the updated drawings are true and correct, which certification shall survive the expiration or termination of the Lease, and (C) to deliver to Landlord such updated drawings in accordance with Landlord's then-current CAD Requirements within ninety (90) days following issuance of a certificate of occupancy for the Premises, and (ii) Tenant shall deliver to Landlord a copy of all warranties, guaranties, and operating manuals and information relating to the improvements, equipment, and systems in the Premises. Tenant's obligations set forth **in** this Section are collectively referred to as the "**Completion Obligations**."

SECTION 4

LANDLORD WORK

Landlord shall deliver the Premises in "warm shell" condition and in conformance with the base building standards as set forth on Exhibit B-2 hereto (the "Landlord Work"). The Landlord Work shall be performed in a good workmanlike manner and comply in all respects with the Code and other federal, state, city and/or quasi-governmental laws, codes, ordinances and regulations, as each may apply according to the rulings of the controlling public official, agent or other person or entity; the applicable standards of the American Insurance Association (formerly, the National Board of Fire Underwriters), and the National Electrical Code. Subject to the foregoing and the terms of the Lease, Tenant shall accept the Premises in its then existing, "AS-IS" condition.

SECTION 5

MISCELLANEOUS

5.1 Tenant's Representative. Tenant has designated Dave Johnson as its sole representative with respect to the matters set forth in this Workletter, until further notice to Landlord, who shall have full authority and responsibility to act on behalf of Tenant as required in this Workletter.

5.2 Landlord's Representative. Landlord has designated Geoffrey Sears as its sole representative with respect to the matters set forth in this Workletter, who, until further notice to Tenant, shall have full authority and responsibility to act on behalf of Landlord as required in this Workletter.

5.3 Tenant's Default, Notwithstanding any provision to the contrary contained in the Lease, if a Default by Tenant under the Lease (including, without limitation, this Workletter) has occurred and is continuing at any time on or before the substantial completion of the Tenant Improvements, then in addition to all other rights and remedies granted to Landlord pursuant to the Lease, Landlord shall have the right to withhold payment of all or any portion of the Tenant Improvement Allowance until such time as such Default is cured pursuant to the terms of the Lease.

EXHIBIT B-1

APPLICABLE GREEN BUILDING STANDARDS

Tenant shall cause the Architect, Engineers and General Contractor (the Tenant's "Tl Project Team") to rate the proposed Tenant Improvements on a "LEED" scorecard with a goal of achieving at least a "Gold" level as set forth by the USGBC, and shall provide that information, attested to by Tl Project Team as part of the Space Plan and Working Drawings approval process.

Tenant agrees to direct the Architect and Engineers to design the Tenant improvements such that they meet the following standards:

Under the LEED 2009 Core & Shell Haling System, achieving certain credits is dependent open integrating the ci edit requirements Into a binding tenant lease or sales agreement In these cases, the technical requirements mist be clearly Identified as part of the tenants' scope, and enforced through the tenant lease agreement. The tot lowing sample text can be referenced to that end.

TENANT'S WORK

Tenant agrees that Tenant's Work shall Include the following

SUSTAINABLE DESIGN

Please refer to the LECO Reference Guide for Green But ding Design and Construction 2009 lor detailed information on the specific credits and goals described below.

WATER EFFICIENCY

WEc3 - Water Use Reduction (reduce by 40%)

Tenant Installed plumbing fixtures must comply with the following applicable maximum fixture flush and flowrates.

- Water closet: 1.1 gpf
- Urinals: 0.125 gpf
- Lavatory faucets 0.35 gpm
- Kitchen faucets: 1.5 gpm
- Showerheads: 1.5 gpm

ENERGY & ATMOSPHERE

EAo3 - Fundamental Refrigerant Management and EAc4 – Enhanced Refrigerant Management

Tenant Installed heating, ventilating, air conditioning and refrigeration (HVAC&R) systems must contain two chlorofluorocarbon (CFO based refrigerants and either eliminate IM use of chemical refrigerants or select refrigerants that minimize or eliminate the emission of compounds that contribute to atone depletion.

Refer to LEED 2009 EAc4 Enhanced Refrigerant Management for details on calculating maximum thresholds lor refrigerant contributions to ozone depletion and global warming potential.

EAcl – Optimize Energy Performance

Tenant Installed regulated building energy consuming systems demonstrate a minimum 20% Improvement when measured by energy cost than a baseline building determined according to Appendix G of ASHRAE Standard 90.1- 2007. Regulated energy includes lighting; HVAC; and service water heating for domestic or space heating purposes.

Refer to LEED 2009 EAp2 Minimum Energy Performance and EAc1 Optimize Energy Performance for details on calculating baseline and proposed building performance.

INDOOR ENVIRONMENTAL QUALITY

IEQp2 – Minimum Indoor Air Quality Performance – Prerequisite

Mechanical ventilation systems must be designed using the ventilation rate procedure as defined by AS HR At 62.1- 2007, or the applicable local code, whichever is more stringent.

IEQp2 – Environmental Tobacco smoke (ETS) Control – Prerequisite

Prohibit smoking inside the building and within 25 feet of all building entrances, outdoor air intakes, and operable windows

IEQcl - Outdoor Air Delivery Monitoring

Tenant installed ventilation systems must provide permanent monitoring system that monitor CO2 concentrations within all mechanically ventilated densely occupied spaces and provide direct outdoor air flow measurement devices in air handling units where more then 20% of the design supply air flow serves non-densely occupied spaces. All naturally ventilated spaces must monitor CO2 concentrations and all CO2 monitors must be placed between 3 and 6 feet above the floor.

Refer to LEED 2009 lEQc1 Outdoor Air Delivery Monitoring for details on monitoring accuracy and integration into building automation system.

IEQc2 – Increased Ventilation

Tenant installed ventilation systems must increase breathing zone outdoor air ventilation rates by at lent 30% above the minimum rates prescribed by ASHRAE 62.1-2007.

IEQc3.1 – Construction Indoor Air Quality Management Plan

Tenant construction must develop an Indoor Air Quality (IAQ) management plan that meets or exceeds the recommended control measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, 2nd edition, 2007, ANS l/S MACHA 008-2008, Chapter 3 In addition, the plan should address

- Protection of absorptive materials stored on-site and Installed Iran moisture damage.
- Permanently installed air-handling equipment is not operated during construction unless filtration media with a minimum efficiency reporting value (MERV) of 8 are installed at each return air grille and return. Immediately before occupancy, replace all Iteration media with the final design filtration media.

Refer to LEED 2009 IEQc3.l - Construction Indoor Air Quality Management Plan - During Construction for details on IAQ plan requirements and reporting

IEQc4.l-4.4 Low-Emitting Materials

All adhesives and sealants used on the interior of the Tenant construction must comply to the VOC limits established by the South Coast Air Quality Management District (SCAQMO) Rule #1168. All paints and coatings used must not exceed the VOC limits established by Green Seal Standard GS-11, Groen Seal Standard GC-03, and SCAQMD Rule #1113. All installed flooring must meet the requirements of IEQc4.3 Low-Emitting Materials - Flooring

Systems. Carpet must meet the requirements of the Carpet and Rug Institute Green Label Plus program. Carpet adhesive must meet the requirements of IEQc4.1 Low-emitting Materials-Adhesives and Sealants Hard surface flooring must be FloorScore Standard certified. All flooring sealers, stains and finish must meet the SCAQMD Rule #1113 and tile setting adhesives must meet Rule # 1168. All composite wood and agrifiber products used must comply with the no- added urea formaldehyde requirements of 1EQC4.4 Low-Emitting Materials Composite and Agrifiber Products.

Refer to LEED 2009 IEQc4.1 to 4.4 Low-Emitting Materials for further details on VOC limits arid third-party certification requirements,

IEPc5- Indoor chemical and pollutant source control

Sufficiently exhaust each space where hazardous gases or chemicals may be pre sent or used [e.g., garages, housekeeping and laundry areas, copying end printing rooms] to create negative pressure with respect to adjacent spaces when the doors to the room are closed. For each of these spaces, provide self-closing doors end deck-to-deck partitions or a hard-lid ceiling. The exhaust rate must be at least 0.50 cubic feet per minute (cfm) per square foot (0.15 cubic meters per minute per square motor) with no air recirculation. The pressure differential with the surrounding spaces must be at least 5 Pascals (Pa) (0.02 Inches of water gauge) on average and 1 Pa (0.004 inches of water) at a minimum when the doors to the rooms are closed.

In mechanically ventilated buildings, each ventilation system that supplies outdoor air shall provide MERV 13 air filtration.

EXHIBIT B-2

LANDLORD WORK / WARM-SHELL DESCRIPTION

OCCUPANCY

- Tower designed to accommodate “B” and “L” occupancies.

SITEWORK / PARKING

- Exterior hardscape and landscape including site lighting, curbs, sidewalks and drive aisles, miscellaneous site furnishings and stormwater bio-filtration system.
- Hardscape and landscaping on podium rooftop (tower’s base), accessible from tower.
- Connection from podium roof terrace to pedestrian bridge.
- Landlord-provided Generac emergency generator with enclosure for life-safety and tenant purpose back-up power (1600kW / 2000 kVA/60Hz).
- Immediate connection to area commuter trains, buses and free EmeryGoRound shuttle.
- Ample visitor/transient parking in podium with tenant employee parking in adjacent 6100 Horton St Garage structure, including provisions for electric vehicle charging.
- Outdoor bike racks and large indoor, secured bike storage.
- Significant on-site public art.

STRUCTURE

- Structural slab on grade supported by auger piles, pile caps and grade beams.
- Steel superstructure for podium and commercial tower above.
- Lateral system using moment frames and buckling-restrained brace frames (BRB’s). Seismic importance of 1.0.
- Floors of concrete slab on metal deck. Floor load of 100 lbs/SF, reducible.
- Structural roof (100 lbs per SF, reducible), and central mechanical penthouse.
- Floor-to-floor height of 14’10” with top (9^{lh}) floor at 15’0”. Designed to allow robust lab MEP above a minimum finished ceiling height of 10’0”.
- Floor vibration: 3^{rd} floor 14,000 micro-inches/second, Floors 4-9 18,000 micro- inches/second.

EXTERIOR SKIN

- Glass (curtainwall, storefront and ribbon window systems), metal panels and precast panels.
- Head of ribbon windows at 9’-0” above finished floor, sills at 3’-0.”
- Metal panels for penthouse and screened mechanical area.
- Accessible private exterior terraces on Floors 4-6.

COMMON AREAS / FACILITIES

- Double-height ground floor lobby, complete with main greeting/security desk, and all interior finishes, FF&E and art.
- Ground floor main electrical room, and fire control room with main fire alarm panel.
- Covered loading dock with roll-down door, at-grade area for shipping/receiving, and hydraulic scissor lift.
- Trash room.
- 750 GPM Patterson fire pump and 60,000 gallon fire water storage tank.
- Telecom main point of entry (MPOE) room. At grade with pathway to stacked tower riser closets on every floor. Open access to main telco providers (AT&T, Comcast and Paxio Fiber).
- One service/freight elevator with capacity of 5,000 lbs. (sized to accommodate an 8 ft. chemical fume hood). This elevator is accessible from loading dock and services all floors plus roof and penthouse.
- Three destination dispatch passenger elevators serving the commercial tower with capacity of 3,500 lbs. Fourth pit for potential future elevator.
- Two exit stair towers completed including drywall enclosure finished and painted on interior, stair treads, handrails, lighting, and stairway pressurization/smoke evacuation.

FULL FLOOR TENANT AREAS:

- Central, fully finished men’s and women’s restrooms on each floor.
- Janitor closet on every floor.
- Electrical closet with access to main bus duct riser on every floor. Closets have been sized to allow some amount of future tenant transformers.

- IDF riser closet on every floor.
- Tenant and employee access to nearby shared campus conference facility and workout room.
- Exterior cladding and framing ready for tenant insulation and drywall.

MECHANICAL

- Floor heights and structural beam depths allow for 22” duct height while still maintaining a 10’0” finished ceiling, with higher ceilings possible. Indicative duct layout drawings can be shared upon request.
- Stand-alone split system serves the main lobby and ground floor back of house areas.
- Completed vertical shafts sized to accommodate supply air mains, exhaust duct mains, and chilled and heating water risers.
- 74”x24” supply air duct stub-out at each shaft (typ. x3) per floor
- 66”x24” general lab exhaust sub-duct stub-out at each shaft (typ. x3) per floor
- 4” process condenser water stub-out at each floor
- 4” heat hot water stub-out at each floor
- Central equipment (air handlers, exhaust fans, chillers, boilers, pumps, cooling tower, and associated equipment) designed to supply 100% outside air of 1.6 CFM per square foot of tenant area.
- (3) 100,000 CFM GovernAir custom air handling units
- (4) 60,000 CFM Lorin Cook lab exhaust fans
- (2) 750 ton Trane water cooled chillers
- (1) 400 ton heat exchanger for process cooling
- (1) 1875 GPM B AC cool Ing tower
- (4) 5,600 MBH Aereo output boilers.
- Central Building Management System (BMS) to control core HVAC,
- Pre-identified future louver area on each floor allows for potential additional on-floor air handler for greater capacities, if necessary.
- High-rise smoke evacuation system as required by code for base building shell.

- Core restrooms on every floor served by dedicated bathroom exhaust riser with rooftop exhaust fan. Transfer/make-up air will be provided as part of Tenant Improvement.

ELECTRICAL

- PG&E transformer at 100kVA, 480Y/277V.
- Transformer serves installed main switchboard rated at 4,000 amp, 480Y/277V.
- 3000 amp, 277/480V 3P, 4W bus duct runs from main electrical room up to penthouse and connecting all on-floor tenant electrical rooms. Tenants have their pro-rata share of access to this electrical riser. Assuming a typical 60/40 lab to office mix for any tenant, this electrical system allows for power and lighting at 5.2W/sq. ft. in office areas and of 6.2W/sq. ft. in lab areas. Please note that the Mechanical system electrical needs have been accommodated outside/on top of these amounts.
- Each tenant electrical room has a 200 amp 277/480V panel, a 45 kVA step down transformer, and a 100 amp 120/2087 panel. If Tenants' electrical allowance (above) permits, they can add taps to the 480V bus duct to access more power. The electrical room on each floor has been sized to allow for the siting of transformers(s) tenants will likely employ.
- Landlord-provided 1.5 MW 60Hz 480V diesel standby emergency generator at grade at building exterior. Generator is sized for 2400A. Two Automatic Transfer Switches (ATS) divide life safety loads from tenant discretionary loads. 800A is allocated for life safety purposes and 1600 A for tenant discretionary loads. Off this riser each floor has a 200A emergency panel (rated 277/480V, 3-phase, 4 wire) to which tenants have their pro-rata access. There is an 800A emergency panel on the roof. 400A was used to support certain AHU and EF HVAC equipment, and the 400A balance is available for future loads. The opportunity to serve greater tenant loads would be through separate standby power equipment on ground floor.

PLUMBING:

- Building storm and overflow drainage system, including bio-retention system to biologically treat/filter all site-generated storm water.
- Backflow prevention device at main water entry point.
- Cold and hot water provided to all restrooms in core and shell,
- Two 2" Cold water stub outs on every floor.
- 4" Waste and 3" vent stub on every floor, located at risers in each quadrant.
- Tenant domestic hot water to be via electric hot water heaters as part of Tenant Improvements,

- Natural gas riser to serve core and shell domestic hot water needs and building penthouse HVAC heat boilers. Tenant natural gas available at each floor with 1-1/4” stub-out at 2psi. Tenant to provide pressure reducing valves and sub-meters.
- No provisions for acid waste. Neutralization, if and as required, to be performed by tenants in tenant spaces.

FIRE/LIFE SAFETY:

- Existing 2-hour separation between floors.
- Base building sprinkler system with shell configuration heads on every floor as part of base building.
- Fire pump with 60,000 gallon emergency fire water tank at ground floor.
- Main fire alarm closet with main fire alarm panel at ground level (Notifier by Honeywell).
- Code fire alarm devices for core areas at every floor,
- 2-hour fire rating at north facade met with addition of tenant-supplied interior drywall.

SECURITY / TELECOM:

- Main MPOE room at grade, with central risers up commercial tower connecting tenant IDF rooms on every floor.
- Card access at all exterior points of entry and at parking garage.
- Manned security station in main lobby with 24/7 manned campus security.

EXHIBIT C-l

LABORATORY RULES AND REGULATIONS

1. Any laboratory equipment (glass and cage washers, sterilizers, centrifuges, etc,) being used during normal business hours must be properly insulated for noise to prevent interruption of other tenants' business. Landlord reserves the right to request all equipment be reasonably insulated prior to occupancy. Should other tenants complain of noise. Tenant will be responsible for abating any noise issues, at Tenant's sole cost.

2. Any damages to property due to leaks from laboratory equipment of Tenant will be the sole responsibility of Tenant, Should damage occur in other tenant spaces, any and all damages and clean-up will be the responsibility of Tenant.

3. Animal activities are a recognized and necessary process in the biotech industry. It can only be conducted by laboratory tenants pursuant to all the requirements of their respective lease (including any "Use" clause) and requires specific, written approval by Landlord in advance, which shall not be unreasonably withheld, conditioned or delayed. Any animal operations shall be conducted pursuant to all regulations, standards and best industry practices relating to them.

4. The Project may be a mixed-use facility in which laboratory tenants share space with office tenants. To reduce the potential interaction with office tenants and their employees and visitors with any biotech animal operations, any animal testing, delivery and removal of animals and/or any equipment, foods, cleaners, etc. associated with animal activities must be coordinated through the loading dock and freight elevator after hours and with the cooperation and approval of building management and security personnel. No cartons, containers or cardboard boxes bearing the nature of contents may be stored or left in common area spaces, to include any garage/freight areas. Feed bags, animal carriers, and any and all containers must be disposed of properly and with discretion.

5. All exterior signage relating to laboratory operations (i.e. visible to common areas including corridors) must be kept to the minimum required by law. All signs must have Landlord's approval prior to installation.

EXHIBIT C-2

RULES AND REGULATIONS

1. No sidewalks, entrance, passages, courts, elevators, vestibules, stairways, corridors or halls shall be obstructed or encumbered by Tenant or used for any purpose other than ingress and egress to and from the Premises and if the Premises are situated on the ground floor of the Project, Tenant shall further, at Tenant's own expense, keep the sidewalks and curb directly in front of the Premises clean and free from rubbish.

2. No awning or other projection shall be attached to the outside walls or windows of the Project without the prior written consent of Landlord. No curtains, blinds, shades, drapes or screens shall be attached to or hung in, or used in connection with any window or door of the Premises, without the prior written consent of Landlord which shall not be unreasonably withheld, conditioned or delayed. Such awnings, projections, curtains, blinds, shades, drapes, screens and other fixtures must be of a quality, type, design, color, material and general appearance approved by Landlord, and shall be attached in the manner reasonably approved by Landlord. All lighting fixtures hung in offices or spaces which can be seen from the outside the Premises must be of a quality, type, design, bulb color, size and general appearance reasonably approved by Landlord.

3. No sign, advertisement, notice, lettering, decoration or other thing shall be exhibited, inscribed, painted or affixed by Tenant on any part of the outside of the Premises or of the Project, without the prior written consent of Landlord. In the event of the violation of the foregoing by Tenant, Landlord may remove same without any liability, and may charge the expense incurred by such removal to Tenant.

4. The sashes, sash doors, skylights, windows and doors that reflect or admit light or air into the halls, passageways or other public places in the Project shall not be covered or obstructed by Tenant, nor shall any bottles, parcels or other articles be placed on the window sills that can be seem from the outside of the Premises or in the public portions of the Project.

5. No showcases or other articles shall be put in front of or affixed to any part of the exterior of the Project, nor placed in public portions thereof without the prior written consent of Landlord.

6. The water and wash closets and other plumbing fixtures shall not be used for any purposes other than those for which they were constructed, and no sweepings, rubbish, rags or other substances shall be thrown therein. All damages resulting from any misuse of the fixtures shall be borne by Tenant to the extent that Tenant or Tenant's agents, servants, employees, contractors, visitors or licensees shall have caused the same.

7. Tenant shall not mark, paint, drill into or in any way deface any part of the Premises or the Project other than Decoration which is permitted under the Lease. No boring, cutting or stringing of wires belonging to Landlord shall be permitted, except with the prior written consent of Landlord, and as Landlord may direct.

8. No animal or bird of any kind shall be brought into or kept in or about the Premises or the Project, except registered service animals.

9. Tenant shall cooperate with Landlord's efforts to implement the Project's Sustainability Practices and the applicable Green Building Standards, including, but not limited to, complying with Landlord's then-current energy saving efforts and participating in any recycling programs and occupant satisfaction and transportation surveys.

10. Tenant shall not make, or permit to be made, any unseemly or unreasonably disturbing noises or disturb or unreasonably interfere with occupants of the Project, or neighboring buildings or premises, or those having business with them. Tenant shall not throw anything out of the doors, windows or skylights or down the passageways.

11. Tenant shall regularly conduct cleaning and janitorial activities, especially in bathrooms, kitchens and janitorial spaces, to remove mildew and prevent moist conditions and shall comply with the Project's Sustainability Practices and the applicable Green Building Standards.

12. No additional locks, bolts or mail slots of any kind shall be placed upon any of the doors or windows by Tenant, nor shall any change be made in existing locks or the mechanism thereof. Tenant must, upon the termination of the tenancy, restore to Landlord all keys of stores, offices and toilet rooms, either furnished to, or otherwise procured by Tenant, and in the event of the loss of any keys so furnished. Tenant shall pay to Landlord the cost thereof.

13. All removals, or the carrying in or out of any safes, freight, furniture, construction material, bulky matter or heavy equipment of any description must take place during the hours which Landlord or its agent may reasonably determine from time to time. Landlord reserves the right to prescribe the weight and position of all safes, which must be placed upon two-inch thick plank strips to distribute the weight. The moving of safes, freight, furniture, fixtures, bulky matter or heavy equipment of any kind must be made upon previous notice to the Building Manager and in a manner and at times prescribed by him, and the persons employed by Tenant for such work are subject to Landlord's prior approval. Landlord reserves the right to inspect all safes, freight or other bulky articles to be brought into the Project and to exclude from the Project all safes, freight or other bulky articles which violate any of these Rules and Regulations or the Lease of which these Rules and Regulations are a part.

14. Tenant shall not purchase janitorial or maintenance or other like service from any company or persons not approved by Landlord. Landlord shall approve a sufficient number of sources of such services to provide Tenant with a reasonable selection, but only in such instances and to such extent as Landlord in its judgment shall consider consistent with security and proper operation of the Project.

15. Landlord shall have the right to prohibit any advertising conducted by Tenant referring to the Project which, in Landlord's reasonable opinion, tends to impair the reputation of the Project or its desirability as a first class building for offices and/or commercial services and upon notice from Landlord, Tenant shall refrain from or discontinue such advertising.

16. Landlord reserves the right to exclude from the Project between the hours of 6:00 p.m. and 8:00 a.m. Monday through Friday, after 1:00 p.m. on Saturdays and at all hours Sundays and legal holidays, all persons who do not present a pass to the Project issued by Landlord. Landlord may furnish passes to Tenant so that Tenant may validate and issue same. Tenant shall safeguard said passes and shall be responsible for all acts of persons in or about the Project who possess a pass issued to Tenant.

17. Tenant's vendors and contractors shall, while in the Premises or elsewhere in the Project, be subject to and under the control and direction of the Building Manager (but not as agent or servant of said Building Manager or of Landlord) and shall be required to maintain such insurance coverage as reasonably approved by Landlord with liability policies naming Landlord and the Indemnitees as additional insureds.

18. If the Premises is or becomes infested with vermin as a result of the use or any misuse or neglect of the Premises by Tenant, its agents, servants, employees, contractors, visitors or licensees, Tenant shall forthwith at Tenant's expense cause the same to be exterminated from time to time to the satisfaction of Landlord and shall employ such licensed exterminators as shall be approved in writing in advance by Landlord.

19. The requirements of Tenant will be attended to only upon application at the office of the Project. Project personnel shall not perform any work or do anything outside of their regular duties unless under special instructions from the office of the Landlord.

20. Canvassing, soliciting and peddling in the Project are prohibited and Tenant shall cooperate to prevent the same.

21. No water cooler, air conditioning unit or system or other apparatus shall be installed or used by Tenant without the written consent of Landlord which shall not be unreasonably withheld, conditioned or delayed.

22. There shall not be used in any premises, or in the public halls, plaza areas, lobbies, or elsewhere in the Project, either by Tenant or by jobbers or others, in the delivery or receipt of merchandise, any hand trucks or dollies, except those equipped with rubber tires and sideguards.

23. Tenant, Tenant's agents, servants, employees, contractors, licensees, or visitors shall not park any vehicles in any driveways, service entrances, or areas posted "No Parking" and shall comply with any other parking restrictions imposed by Landlord from time to time.

24. Tenant shall install and maintain, at Tenant's sole cost and expense, an adequate visibly marked (at all times properly operational) fire extinguisher next to any duplicating or photocopying machine or similar heat producing equipment, which may or may not contain combustible material, in the Premises.

25. Tenant shall make reasonable efforts to close the window coverings of any areas of the Premises that remain fully lighted after 10:00 pm.

26. Tenant shall not use the name of the Project for any purpose other than as the address of the business to be conducted by Tenant in the Premises, nor shall Tenant use any picture of the Project in its advertising, stationery or in any other manner without the prior written permission of Landlord. Landlord expressly reserves the right at any time to change said name without in any manner being liable to Tenant therefor.

27. Tenant shall not conduct any restaurant, catering operations, or similar activities at the Premises; provided, however. Tenant may cook and/or prepare food and beverage solely for in-Premises consumption by its employees provided that no odors of cooking or other processes emanate from the Premises. Tenant shall not install or permit the installation or use of any vending machine or permit the delivery of any food or beverage to the Premises except by such persons and in such manner as are approved in advance in writing by Landlord.

28. The Premises shall not be used as an employment agency, a public stenographer or typist, a labor union office, a physician's or dentist's office, a dance or music studio, a school, a beauty salon, or barber shop, the business of photographic, multilith or multigraph reproductions or offset printing (not precluding using any part of the Premises for photographic, multilith or multigraph reproductions solely in connection with Tenant's own business and/or activities), a restaurant or bar, an establishment for the sale of confectionery, soda, beverages, sandwiches, ice cream or baked goods, an establishment for preparing, dispensing or consumption of food or beverages of any kind in any manner whatsoever, or news or cigar stand, or a radio, television or recording studio, theatre or exhibition hall, or manufacturing, or the storage or sale of merchandise, goods, services or property of any kind at wholesale, retail or auction, or for lodging, sleeping or for any immoral purposes.

29. Business machines and mechanical equipment shall be placed and maintained by Tenant at Tenant's expense in settings sufficient in Landlord's judgment to absorb and prevent vibration, noise and annoyance. Tenant shall not install any machine or equipment which causes noise, heat, cold or vibration to be transmitted to the structure of the building in which the Premises are located without Landlord's prior written consent, which consent may be conditioned on such terms as Landlord may require. Tenant shall not place a load upon any floor of the Premises exceeding the floor load per square foot that such floor was designed to carry and which is allowed by Law.

30. Tenant shall not store any vehicle within the parking area. Tenant's parking rights are limited to the use of parking spaces for short-term parking, of up to twenty-four (24) hours, of vehicles utilized in the normal and regular daily travel to and from the Project. Tenants who wish to park a vehicle for longer than a 24-hour period shall notify the Building Manager for the Project and consent to such long-term parking may be granted for periods up to two (2) weeks. Any motor vehicles parked without the prior written consent of the Building Manager for the Project for longer than a 24-hour period shall be deemed stored in violation of this rule and regulation and shall be towed away and stored at the owner's expense or disposed of as provided by Law.

31. Smoking is prohibited in the Premises, the Building and all enclosed Common Areas of the Project, including all lobbies, all hallways, all elevators and all lavatories.

RIDER 1

RENT COMMENCEMENT DATE AGREEMENT

Emery Station West, LLC, a California limited liability company ("**Landlord**"), and _____ a _____ corporation ("**Tenant**"), have entered into a certain Office/Laboratory Lease dated as of _____ 2018 (the "Lease"). Unless otherwise defined herein, all capitalized terms shall have the same meaning ascribed to them in the Lease.

WHEREAS, Landlord and Tenant wish to confirm and memorialize the Rent Commencement Date and Expiration Date of the Lease as provided for in Section 2.2(b) of the Lease.

NOW, THEREFORE, in consideration of the foregoing and the mutual covenants contained herein and in the Lease, Landlord and Tenant agree as follows:

1. The Rent Commencement Date is acknowledged to be _____. The Expiration Date is acknowledged to be _____.

2. Tenant hereby confirms that it has accepted possession of the Premises pursuant to the terms of the Lease and that the Lease is in full force and effect.

3. Except as expressly modified hereby, all terms and provisions of the Lease are hereby ratified and confirmed and shall remain in full force and effect and binding on the parties hereto.

4. The Lease and this Rent Commencement Date Agreement contain all of the terms, covenants, conditions and agreements between the Landlord and the Tenant relating to the subject matter herein. No prior other agreements or understandings pertaining to such matters are valid or of any force and effect.

TENANT:
_____
a _____corporation

By: _____
Print Name: _____
Its: _____

By: _____
Print Name: _____
Its: _____

LANDLORD:
Emery Station West, LLC,
a California limited liability company

By: ES West Associates, LLC
a California limited liability company,
its Managing Member

By: Wareham-NZL, LLC
a California limited liability company,
its Manager

By: _____
Richard K. Robbins
Manager

SCHEDULE 1

SUPERIOR RIGHTS

The rights of Stanford Health Care.

SCHEDULE 2

SPECIAL SUPERIOR RIGHTS

The rights of Stanford Health Care.

EXHIBIT C

SUBLEASE COMMENCEMENT MEMORANDUM

_____, 2022

Zymergen Inc.
5980 Horton Street, Suite 105
Emeryville, CA 94608
Attn: Chief Legal Officer

Re: Sublease Commencement Memorandum (this "**Memorandum**") with respect to that certain Sublease dated as of , 2022 ("**Sublease**"), by and between ZYMERGEN INC., a Delaware corporation ("**Sublandlord**"), and Metagenomi, Inc., a Delaware Corporation ("**Subtenant**"), relating to approximately 75,662 rentable square feet of space within the building located at 5959 Horton Street, Emeryville, California. Capitalized terms not defined herein shall have the meanings set forth in the Sublease.

Dear _____

In accordance with the terms and conditions of the Sublease, Sublandlord and Subtenant hereby execute this Memorandum to confirm the Commencement Date, the Expiration Date and other matters under the Sublease as follows:

1. The Commencement Date is , 20__
2. The Expiration Date is , 20__
3. The schedule of Base Rent set forth in the Sublease is deleted in its entirety, and the following is substituted therefor:

[**Insert revised base rent schedule.**]

[*Signature page follows*.]

IN WITNESS WHEREOF, the parties hereto have caused this Memorandum to be executed as of the date first written above.

SUBLANDLORD:

ZYMERGEN INC.,
a Delaware corporation

By: _____
Name: _____
Title: _____

SUBTENANT:

METAGENOMI, INC.,
a Delaware corporation

By: _____
Name: _____
Title: _____

EXHIBIT D

6TH FLOOR ZYMERGEN FF&E

TOTAL NUMBER	Asset CategoTask	Furniture Tag	Asset Tag	Description
10	Table	262 TA-57	OF3052	Training Table, GOW x 24D x 29H, Y-Leg, Casters
1	Table	265 TA-59	OF3071	Sage Coffee Table, 32.5Wx 15H
2	Chair	211 CH-04	OF2992	Lily Lounge Chair, 27x27x34
1	Bench	212 BE-04	OF2997	Together; Bench, Right corner with back, 11/2 offset
4	Stool	214 ST-14	OF2998	Naughtone, Polly Barstool with 4-Leg Base, 22.5W x 21D x 43.5H
2	Table	215 T-60	OF3074	Flex; Work table. Standing height, 70W x 23D x 41.5H
2	Bench	216 BE-06	OF3072	B-Free; Beam, Aluminum, 1200MML, 47W x 15D x 28H
9	Tethered Sp	185 T-SPE-04	OF2920	Steelcase Ology, 6-Pack, No Gallery Panel, Boundary Screen, 58W x 230 Surfaces
3	Tethered Sp	185 T-SPE-03	OF2921	Steelcase Ology, 8-Pack, No Gallery Panel, Boundary Screen, 58W x 230 Surfaces
1	Tethered Sp	187 T-SPE-03	OF2923	Steelcase Ology, 7-Pack, No Gallery Panel, Boundary Screen, 58W x 23D Surfaces
4	Chair	263 CH-05	OF3063	Dot Side Chair, 18W x 200 x 31H
3	Table	201 TA-55	OF2949	Lagunitas Square Table, 1-1/4 x 36W x 360 x 26H, Rounded Square Table, Disc Base, Square Column
5	Lounge Cha	205 CH-47	OF2957	Hem, Hai Chair, 34.20 x 34.6W x 39 4H
4	Table	207 TA-56	OF2963	Finn Side Table, 11_7W x 23 5D « 18H
165	Mobile Ped	180 MP-02	OF2541	S-Series Mobile Pedestal w/Top, Box/File, 15W x 23D x 21H
33	Conference	181 CH-45	OF2697	Wit Mid Back Task Chair w/ Adjustable Lumbar, Swivel Tilt, Fixed, Mesh, Grade 1, Carpet Casters
9	Conference	182 CT-21	OF2754	HPL Trapezoid Shaped Conference Table, 78W x 480 x 360 x 29H, Fawn Cypress, Looped Leg, Silver Powdercoat Finish
155	Task Chair	183 CH-22	OF2763	AmiaTask Chair, 3-0 Knit Back, Height/Width/Pivot/Depth Adjustable arms
1	Tethered Sp	193 T-SPE-09	OF2929	Steekcase, Ology S-Pack, (1) 66W x 48H Gallery Panel, Boundary Screen, S8W x 23D Surface

2	Phone Boo	202 PH-01	OF2952	Comfort Booth, 84.5” H x 45.5* W x 41* D, Double Pane Insulated Glass Door, Two Electrical Outlets, Fast Charging USB Outlets
2	Stool	203 ST-13	OF2953	Donatello Bar Stool, 15W x 16D x 31H
1	Table	204 TA-65	OF2955	Round Side Table, 22W x 18H
5	Table	210 TA-56	OF2987	Finn Side Table, 11.7W x 23 5D x 18H
3	Chair	211 CH-04	OF2994	Lily Lounge Chair, 27x27x34
1	Bench	213 BE-05	OF3070	Coalesse, Together, Bench-Straight, Back, 11/2 offset, 96W x 27D x 31H
1	Lockers	217 LK-19	OF3108	HPL Lockers, 129W x 36D x 44.5H, L5959-601-628
27	Conference	261 CH-02	OF3030	Wit Mid Back Task Chair w/Adjustable Lumbar, Swivel Tilt, Fixed, Mesh, Grade 1, Carpet Casters
1	Tethered SpTBD	T-SPE-09	TBD	Steelcase, Ology 5-Pack, (1) 66W x 48H Gallery Panel, Boundary Screen, 58W x 23D Surface
25	Task Chair	CH-22	OF3O82	AmiaTask Chair, 3-D Knit Back, Height/Width/Pivot/Depth Adjustable arms

EXHIBIT E

ENVIRONMENTAL QUESTIONNAIRE FORM

The purpose of this form is to obtain information regarding the use of "Hazardous Materials" (as such term is defined in the Master Lease, as incorporated into the Sublease) in the Subleased Premises. Prospective subtenants and contractors should answer the questions in light of their proposed activities on the Subleased Premises. Existing subtenants and contractors should answer the questions as they relate to ongoing activities on the Subleased Premises and should update any information previously submitted.

If additional space is needed to answer the questions, you may attach separate sheets of paper to this form. When completed, the form should be sent to the following address:

Zymergen Inc.
5980 Horton Street, Suite 105
Emeryville, CA 94608
Attn: Director, Global Facilities,
Real Estate, and Capital Projects

1. GENERAL INFORMATION.

Name of Responding Company:

Check all that apply:	Subtenant	☐	Contractor	☐
	Prospective	☐	Existing	☐

Mailing Address: _____

_____

Contact person & Title: _____

Telephone Number: ( ) _____

Current Subtenant(s):

Address of Subleased Premises: _____

_____

Length of Sublease or Contract Term: _____

Prospective Subtenant(s):

Address of Subleased Premises: _____

_____

Address of Current Operations: _____

_____

Describe the proposed operations to take place on the property, including principal products manufactured or services to be conducted. Existing Subtenants and contractors should describe any proposed changes to ongoing operations.

_____

_____

_____

2. HAZARDOUS MATERIALS. For the purposes of this Environmental Questionnaire Form, the term "Hazardous Materials" includes any raw material, product or agent considered hazardous under any state or federal law.

2.1 Will any Hazardous Materials be used or stored on site?

Chemical Products	Yes	☐	No	☐
Biological Hazards/	Yes	☐	No	☐
Infectious Wastes	Yes	☐	No	☐
Radioactive Materials	Yes	☐	No	☐
Petroleum Products	Yes	☐	No	☐

2.2 List any Hazardous Materials to be used or stored, the quantities that will be on-site at any given time, and the location and method of storage (e.g., bottles in storage closet on the premises).

Hazardous Materials	Location and Method of Storage	Quantity

2.3 Is any underground storage of Hazardous Materials proposed or currently conducted on the Subleased Premises? Yes ☐ No ☐

If yes, describe the materials to be stored, and the size and construction of the tank. Attach copies of any permits obtained for the underground storage of such substances.

_____

_____

_____

3. HAZARDOUS WASTE. For the purposes of this Environmental Questionnaire Form, the term "hazardous waste" means any waste (including biological, infectious or radioactive waste) considered hazardous under any state or federal law, and which is intended to be discarded.

3.1 List any hazardous waste generated or to be generated on the premises, and indicate the quantity generated on a monthly basis.

Hazardous Materials	Location and Method of Storage	Quantity

3.2 Describe the method(s) of disposal (including recycling) for each waste. Indicate where and how often disposal will take place.

Hazardous Materials	Location and Method of Storage	Quantity

3.3 Is any treatment or processing of hazardous, infectious or radioactive wastes currently conducted or proposed to be conducted on the Subleased Premises?

Yes ☐ No ☐

If yes, please describe any existing or proposed treatment methods.

3.4 Attach copies of any hazardous waste permits or licenses issued to your company with respect to its operations on the Subleased Premises.

4. SPILLS

4.1 During the past year, have any spills or releases of Hazardous Materials occurred on the Subleased Premises? Yes ☐ No ☐

If so, please describe the spill and attach the results of any testing conducted to determine the extent of such spills.

4.2 Were any agencies notified in connection with such spills?

Yes ☐ No ☐

If so, attach copies of any spill reports or other correspondence with regulatory agencies.

4.3 Were any clean-up actions undertaken in connection with the spills?

Yes ☐ No ☐

If so, briefly describe the actions taken. Attach copies of any clearance letters obtained from any regulatory agencies involved and the results of any final soil or groundwater sampling done upon completion of the clean-up work.

5. WASTEWATER TREATMENT/DISCHARGE

5.1 Do you discharge industrial wastewater to:

_____storm drain? _____Sewer?

_____surface water? _____no industrial discharge

5.2 Is your industrial wastewater treated before discharge? Yes ☐ No ☐

If yes, describe the type of treatment conducted.

_____

_____

_____

5.3 Attach copies of any wastewater discharge permits issued to your company with respect to its operations on the Subleased Premises.

6. AIR DISCHARGES.

6.1 Do you have any air filtration systems or stacks that discharge into the air?

Yes ☐ No ☐

6.2 Do you operate any equipment that requires air emissions permits?

Yes ☐ No ☐

6.3 Attach copies of any air emission permits pertaining to these operations.

7. HAZARDOUS SUBSTANCES DISCLOSURES.

7.1 Does your company handle an aggregate of at least 500 pounds, 55 gallons or 200 cubic feet of Hazardous Materials at any given time? Yes ☐ No ☐

7.2 Has your company prepared a Hazardous Materials Disclosure – Chemical Inventory and Business Emergency Plan or similar disclosure document pursuant to state or county requirements?

Yes ☐ No ☐

If so, attach a copy.

7.3 Are any of the chemicals used in your operations regulated under Proposition 65?

If so, describe the procedures followed to comply with these requirements.

7.4 Is your company subject to OSHA Hazard Communication Standard Requirements?

Yes ☐ No ☐

If so, describe the procedures followed to comply with these requirements.

8. ANIMAL TESTING.

8.1 Does your company bring or intend to bring live animals onto the Subleased Premises for research or development purposes? Yes ☐ No ☐

If so, describe the activity.

8.2 Does your company bring or intend to bring animal body parts or bodily fluids onto the Subleased Premises for research or development purposes? Yes ☐ No ☐

If so, describe the activity.

9. ENFORCEMENT ACTIONS, COMPLAINTS.

9.1 Has your company ever been subject to any agency enforcement actions, administrative orders, lawsuits, or consent orders/decrees regarding environmental compliance or health and safety? Yes ☐ No ☐

If so, describe the actions and any continuing obligations imposed as a result of these actions.

9.2 Has your company ever received any request for information, notice of violation or demand letter, complaint, or inquiry regarding environmental compliance or health and safety?

Yes ☐ No ☐

9.3 Has an environmental audit ever been conducted which concerned operations or activities on premises occupied by you? Yes ☐ No ☐

9.4 If you answered "yes" to any questions in this section, describe the environmental action or complaint and any continuing compliance obligation imposed as a result of the same.

The undersigned hereby acknowledges and agrees that this Environmental Questionnaire Form will be updated from time to time in accordance with Section 7.1(g) of the Original Master Lease, as incorporated into the Sublease. The undersigned further acknowledges and agrees that Sublandlord and its partners, lenders and representatives may, and will, rely upon the statements, representations, warranties, and certifications made herein and the truthfulness thereof in entering into the Sublease and the continuance thereof throughout the Sublease Term.

[*Signature page follows*.]

I [print name] _____, acting with full authority to bind the (proposed) Subtenant and on behalf of the (proposed) Subtenant, certify, represent and warrant that the information contained in this certificate is true and correct.

Metagenomi, Inc.
a Delaware corporation

By: _____

Name: _____

Title: _____

Date: _____

EXHIBIT F

REMOVABLE DYNAVAX FF&E

EXHIBIT G

FORM OF LETTER OF CREDIT

IRREVOCABLE STANDBY LETTER OF CREDIT NUMBER_____

ISSUE DATE:_____

ISSUING BANK:
SILICON VALLEY BANK
3003 TASMAN DRIVE
2ND FLOOR, MAIL SORT HF210
SANTA CLARA, CALIFORNIA 95054

BENEFICIARY:
ZYMERGEN INC.
5980 HORTON STREET, SUITE 105
EMERYVILLE, CA 94608
ATTN: FINANCE DEPT
EMAIL:_____
PHONE:_____

CC:

ZYMERGEN INC.
5980 HORTON STREET, SUITE 105
EMERYVILLE, CA 94608
ATTN: CHIEF FINANCIAL OFFICER
EMAIL:_____
PHONE:_____

APPLICANT:
METAGENOMI, INC.
5980 HORTON STREET SUITE 600
EMERYVILLE CA 94608

AMOUNT:	US $1,973,416.28 (ONE MILLION NINE HUNDRED SEVENTY-THREE THOUSAND FOUR HUNDRED SIXTEEN AND 28/100 DOLLARS).
EXPIRATION DATE:	SVB WILL PUT A SPECIFIC DATE HERE THAT'S 1 YEAR ISSUANCE HERE
PLACE OF EXPIRATION:	ISSUING BANK'S COUNTERS AT ITS ABOVE ADDRESS

DEAR SIR/MADAM:

AT THE REQUEST AND FOR THE ACCOUNT OF METAGENOMI, INC. ("APPLICANT"), WE HEREBY ESTABLISH OUR IRREVOCABLE STANDBY LETTER OF CREDIT NO. SVBSF_____ IN YOUR FAVOR AVAILABLE BY PAYMENT AGAINST YOUR PRESENTATION TO US OF THE FOLLOWING DOCUMENT:

1.BENEFICIARY'S SIGNED AND DATED STATEMENT STATING AS FOLLOWS:

"FUNDS ARE DUE AND OWING TO BENEFICIARY PURSUANT TO THE TERMS OF THAT CERTAIN SUBLEASE AGREEMENT BETWEEN METAGENOMI, INC., AS SUBTENANT, AND ZYMERGEN INC., AS SUBLANDLORD, AS AMENDED, SUPPLEMENTED OR OTHERWISE MODIFIED TO DATE. THE UNDERSIGNED HEREBY CERTIFIES THAT: (I) THE UNDERSIGNED IS AN AUTHORIZED REPRESENTATIVE OF SUBLANDLORD; (II) SUBLANDLORD IS THE BENEFICIARY OF LETTER OF CREDIT NO. SVBSF _____ ISSUED BY SILICON VALLEY BANK; (III) SUBLANDLORD HAS GIVEN WRITTEN NOTICE TO SUBTENANT (IF REQUIRED UNDER THE SUBLEASE) TO CURE THE DEFAULT PURSUANT TO THE TERMS OF THE SUBLEASE; (IV) SUCH DEFAULT HAS NOT BEEN CURED UP TO THIS DATE OF DRAWING UNDER THE LETTER OF CREDIT; (V) SUBLANDLORD IS AUTHORIZED TO DRAW DOWN ON THE LETTER OF CREDIT; AND (VI) SUBLANDLORD WILL HOLD THE FUNDS DRAWN UNDER THE LETTER OF CREDIT AS SECURITY DEPOSIT FOR SUBTENANT OR APPLY SAID FUNDS TO SUBTENANT'S OBLIGATION UNDER THE SUBLEASE. THE AMOUNT HEREBY DRAWN UNDER THE LETTER OF CREDIT IS US$_____, WITH PAYMENT TO BE MADE TO THE FOLLOWING ACCOUNT: [INSERT WIRE INSTRUCTIONS (TO INCLUDE NAME AND ACCOUNT NUMBER OF THE BENEFICIARY)]."

PARTIAL DRAWS AND MULTIPLE PRESENTATIONS ARE ALLOWED. WE FURTHER ACKNOWLEDGE AND AGREE THAT, UPON RECEIPT OF THE DOCUMENTATION REQUIRED HEREIN, WE WILL HONOR YOUR DRAWS AGAINST THIS IRREVOCABLE STANDBY LETTER OF CREDIT WITHOUT INQUIRY INTO THE ACCURACY OF THE BENEFICIARY'S SIGNED STATEMENT AND REGARDLESS OF WHETHER APPLICANT DISPUTES THE CONTENT OF SUCH STATEMENT. PRESENTATION MADE UNDER AND IN COMPLIANCE WITH THE TERMS OF THIS IRREVOCABLE STANDBY LETTER OF CREDIT RECEIVED AT OUR OFFICE PRIOR TO 10:00 AM PACIFIC TIME ON A BANKING DAY WILL BE DULY HONORED ON THE NEXT BANKING DAY.

THIS LETTER OF CREDIT SHALL BE AUTOMATICALLY EXTENDED FOR ADDITIONAL PERIODS OF ONE YEAR, WITHOUT AMENDMENT, FROM THE PRESENT OR EACH FUTURE EXPIRATION DATE UNLESS AT LEAST NINETY (90) DAYS PRIOR TO THE THEN CURRENT EXPIRATION DATE WE SEND TO YOU A NOTICE BY REGISTERED OR CERTIFIED MAIL OR OVERNIGHT COURIER SERVICE AT THE ABOVE ADDRESS (OR ANY OTHER ADDRESS INDICATED BY YOU, IN A WRITTEN NOTICE TO US, AS THE ADDRESS TO WHICH WE SHOULD SEND SUCH NOTICE) THAT THIS LETTER OF CREDIT WILL NOT BE EXTENDED BEYOND THE THEN CURRENT EXPIRATION DATE. IN NO EVENT SHALL THIS LETTER OF CREDIT BE

AUTOMATICALLY EXTENDED BEYOND FEBRUARY 28, 2031. IN THE EVENT WE SEND SUCH NOTICE OF NON-EXTENSION, YOU MAY DRAW HEREUNDER BY YOUR PRESENTATION TO US OF YOUR SIGNED AND DATED STATEMENT STATING THAT YOU HAVE RECEIVED A NON-EXTENSION NOTICE FROM SILICON VALLEY BANK IN RESPECT OF LETTER OF CREDIT NO. SVBSF _____, YOU ARE DRAWING ON SUCH LETTER OF CREDIT FOR US$_____, AND YOU HAVE NOT RECEIVED A REPLACEMENT LETTER OF CREDIT ACCEPTABLE TO YOU.

ALL DEMANDS FOR PAYMENT SHALL BE MADE BY PRESENTATION OF THE REQUIRED DOCUMENTS ON A BUSINESS DAY AT OUR OFFICE (THE "BANK'S OFFICE") AT: SILICON VALLEY BANK, 3003 TASMAN DRIVE, MAIL SORT HF 210, SANTA CLARA, CA 95054, ATTENTION: GLOBAL TRADE FINANCE. AS USED IN THIS LETTER OF CREDIT, "BUSINESS DAY" SHALL MEAN ANY DAY OTHER THAN A SATURDAY, SUNDAY OR A DAY ON WHICH BANKING INSTITUTIONS IN THE STATE OF CALIFORNIA ARE AUTHORIZED OR REQUIRED BY LAW TO CLOSE.

FACSIMILE PRESENTATIONS ARE ALSO PERMITTED. EACH FACSIMILE TRANSMISSION SHALL BE MADE AT: (408) 496-2418 OR (408) 969-6510; AND UNDER CONTEMPORANEOUS TELEPHONE ADVICE TO: (408) 450-5001 OR (408) 654-7176, ATTENTION: GLOBAL TRADE FINANCE. ABSENCE OF THE AFORESAID TELEPHONE ADVICE SHALL NOT AFFECT OUR OBLIGATION TO HONOR ANY DRAW REQUEST.

THIS LETTER OF CREDIT IS TRANSFERABLE IN WHOLE BUT NOT IN PART WITHOUT OUR APPROVAL OR CHARGE ONE OR MORE TIMES, BUT IN EACH INSTANCE ONLY TO A SINGLE BENEFICIARY AS TRANSFEREE AND FOR THE THEN AVAILABLE AMOUNT, ASSUMING SUCH TRANSFER TO SUCH TRANSFEREE WOULD BE IN COMPLIANCE WITH THEN APPLICABLE LAW AND REGULATION, INCLUDING BUT NOT LIMITED TO THE REGULATIONS OF THE U.S. DEPARTMENT OF TREASURY AND U.S. DEPARTMENT OF COMMERCE. AT THE TIME OF TRANSFER, THE ORIGINAL LETTER OF CREDIT AND ORIGINALS OR COPIES OF ALL AMENDMENTS, IF ANY, TO THIS LETTER OF CREDIT MUST BE SURRENDERED TO US AT OUR ADDRESS INDICATED IN THIS LETTER OF CREDIT TOGETHER WITH OUR TRANSFER FORM ATTACHED HERETO AS EXHIBIT A DULY EXECUTED. ALL CHARGES AND FEES ASSOCIATED WITH THIS IRREVOCABLE STANDBY LETTER OF CREDIT, INCLUDING UPON ANY TRANSFER OF THE IRREVOCABLE STANDBY LETTER OF CREDIT, SHALL BE FOR THE ACCOUNT OF APPLICANT. EACH TRANSFER SHALL BE EVIDENCED BY EITHER (1) OUR ENDORSEMENT ON THE REVERSE OF THE LETTER OF CREDIT AND WE SHALL FORWARD THE ORIGINAL OF THE LETTER OF CREDIT SO ENDORSED TO THE TRANSFEREE OR (2) OUR ISSUING A REPLACEMENT LETTER OF CREDIT TO THE TRANSFEREE ON SUBSTANTIALLY THE SAME TERMS AND CONDITIONS AS THE TRANSFERRED LETTER OF CREDIT (IN WHICH EVENT THE TRANSFERRED LETTER OF CREDIT SHALL HAVE NO FURTHER EFFECT).

IF ANY INSTRUCTIONS ACCOMPANYING A DRAWING UNDER THIS LETTER OF CREDIT REQUEST THAT PAYMENT IS TO BE MADE BY TRANSFER TO YOUR ACCOUNT WITH ANOTHER BANK, WE WILL ONLY EFFECT SUCH PAYMENT BY FED WIRE TO A U.S. REGULATED BANK, AND WE AND/OR SUCH OTHER BANK MAY RELY ON AN ACCOUNT NUMBER SPECIFIED IN SUCH INSTRUCTIONS EVEN IF THE NUMBER IDENTIFIES A PERSON OR ENTITY DIFFERENT FROM THE INTENDED PAYEE.

THIS LETTER OF CREDIT IS SUBJECT TO THE INTERNATIONAL STANDBY PRACTICES (ISP98), INTERNATIONAL CHAMBER OF COMMERCE, PUBLICATION NO. 590.

AUTHORIZED SIGNATURE

AUTHORIZED SIGNATURE

EXHIBIT A TO EXHIBIT E

TRANSFER FORM

DATE:_____

TO: SILICON VALLEY BANK
3003 TASMAN DRIVE
SANTA CLARA, CA 95054
ATTN: GLOBAL TRADE FINANCE
STANDBY LETTERS OF CREDIT

RE: IRREVOCABLE STANDBY LETTER OF CREDIT
NO._____ISSUED BY
SILICON VALLEY BANK, SANTA CLARA
L/C AMOUNT:_____

LADIES AND GENTLEMEN:

FOR VALUE RECEIVED, THE UNDERSIGNED BENEFICIARY HEREBY IRREVOCABLY TRANSFERS TO:

_____
(NAME OF TRANSFEREE)

_____
(ADDRESS)

ALL RIGHTS OF THE UNDERSIGNED BENEFICIARY TO DRAW UNDER THE ABOVE LETTER OF CREDIT UP TO ITS AVAILABLE AMOUNT AS SHOWN ABOVE AS OF THE DATE OF THIS TRANSFER.

BY THIS TRANSFER, ALL RIGHTS OF THE UNDERSIGNED BENEFICIARY IN SUCH LETTER OF CREDIT ARE TRANSFERRED TO THE TRANSFEREE. TRANSFEREE SHALL HAVE THE SOLE RIGHTS AS BENEFICIARY THEREOF, INCLUDING SOLE RIGHTS RELATING TO ANY AMENDMENTS, WHETHER INCREASES OR EXTENSIONS OR OTHER AMENDMENTS, AND WHETHER NOW EXISTING OR HEREAFTER MADE. ALL AMENDMENTS ARE TO BE ADVISED DIRECTLY TO THE TRANSFEREE WITHOUT NECESSITY OF ANY CONSENT OF OR NOTICE TO THE UNDERSIGNED BENEFICIARY.

ALL THE DETAILS SET FORTH HEREIN IN THIS LETTER OF CREDIT DRAFT IS APPROVED BY APPLICANT. IF THERE IS ANY DISCREPANCY BETWEEN THE DETAILS OF THIS LETTER OF CREDIT DRAFT AND THE LETTER OF CREDIT APPLICATION, BETWEEN APPLICANT AND SILICON VALLEY BANK, THE DETAILS HEREOF SHALL PREVAIL."

_____ _____
APPLICANT'S SIGNATURE(s) DATE

THE ORIGINAL OF SUCH LETTER OF CREDIT IS RETURNED HEREWITH, AND WE ASK YOU TO EITHER (1) ENDORSE THE TRANSFER ON THE REVERSE THEREOF, AND FORWARD IT DIRECTLY TO THE TRANSFEREE WITH YOUR CUSTOMARY NOTICE OF TRANSFER, OR (2) ISSUE A REPLACEMENT LETTER OF CREDIT TO THE TRANSFEREE ON SUBSTANTIALLY THE SAME TERMS AND CONDITIONS AS THE TRANSFERRED LETTER OF CREDIT (IN WHICH EVENT THE TRANSFERRED LETTER OF CREDIT SHALL HAVE NO FURTHER EFFECT).

SINCERELY,

(BENEFICIARY'S NAME)

(SIGNATURE OF BENEFICIARY)

(NAME AND TITLE)

SIGNATURE AUTHENTICATED

The name(s), title(s), and signature(s) conform to that/those on file with us for the company and the signature(s) is/are authorized to execute this instrument.

(Name of Bank)

(Address of Bank)

(City, State, ZIP Code)

(Authorized Name and Title)

(Authorized Signature)

(Telephone number)

ALL THE DETAILS SET FORTH HEREIN IN THIS LETTER OF CREDIT DRAFT IS APPROVED BY APPLICANT. IF THERE IS ANY DISCREPANCY BETWEEN THE DETAILS OF THIS LETTER OF CREDIT DRAFT AND THE LETTER OF CREDIT APPLICATION, BETWEEN APPLICANT AND SILICON VALLEY BANK, THE DETAILS HEREOF SHALL PREVAIL."

APPLICANT'S SIGNATURE(s)

DATE

LEASE

By and Between

PARK AVENUE BUILDING LLC,
a California limited liability company

"Landlord"

And

METAGENOMI, INC.,
a Delaware corporation,

"Tenant"

Dated: September 29, 2021

Basic Lease Information

Lease Date:	September 24, 2021
Landlord:	Park Avenue Building, LLC
Landlord's Address:	c/o David Bruck Property Mgt. 1105 La Grande Ave. Napa, CA 94558
Tenant:	Metagenomi, Inc., a Delaware corporation
Tenant's Address:	After Commencement Date: 1485 Park Avenue Emeryville, CA 94608 Prior to Commencement Date: 1545 Park Avenue Emeryville, California 94608 Attn: VP of Legal All notices to Tenant regarding any default shall be copied via email and U.S. mail to: Dalsin Law 1630 N. California Street, #221 Walnut Creek, CA 94596 Attn: Ann M. Dalsin
Guarantor:	None.
Premises:	The entire Building (defined below) and other areas of the Property, including any parking spaces.
Building:	That certain office building containing approximately 23,155 rentable square feet located on the Property.
Property:	A parcel of real property commonly known as 1485 Park Avenue, Emeryville, CA 94608
Term:	One hundred eleven (111) months
Commencement Date:	November 1, 2021
Rent Commencement Date:	January 1, 2022

Termination Date:	January 31, 2031	
Base Rent (§4):	11/1/21 – 12/31/21:	$0.00 per month
	01/1/22 – 10/31/22:	$31,259.25 per month
	11/1/22 – 10/31/23:	$93,777.75 per month
	11/1/23 – 10/31/24:	$96,591.08 per month
	11/1/24 – 10/31/25:	$99,488.82 per month
	11/1/25 – 10/31/26:	$102,473.48 per month
	11/1/26 – 10/31/27:	$105,547.68 per month
	11/1/27 – 10/31/28:	$108,714.11 per month
	11/1/28 – 10/31/29:	$111,975.54 per month
	11/1/29 – 10/31/30:	$115,334.80 per month
	11/1/30 – 01/31/31:	$118,794.85 per month
Security Deposit (§6):	Two Hundred Thirty-Seven Thousand Five Hundred Eighty-Nine Dollars and Seventy Cents ($237,589.70) plus a Letter of Credit in the amount of Eight Hundred Thousand Dollars ($800,000.00) (the "Letter of Credit").	
Prepaid Rent:	Base Rent for the Month of January, 2022 of the Term ($31,259.25) shall be paid upon execution of the Lease.	
Base Year:	The calendar year of 2022.	
Tenant's Share of Operating Expenses (§5.1):	100% of the Building	
Tenant's Share of Tax Expenses (§5.2):	100% of the Building	
Tenant Improvement Allowance:	Two Hundred Thirty-One Thousand Five Hundred Fifty Dollars ($231,550.00)	
Permitted Uses (§9):	General office use, ancillary kitchen and other legally permitted uses that are compatible with the Building, subject to all applicable laws, including zoning.	
Broker (§34):	Cushman & Wakefield for Landlord Kidder Matthews and Newmark for Tenant	
Exhibits:	*Exhibit A - Premises and Building* *Exhibit B - Commencement Date Amendment* *Exhibit C - Tenant Improvements* *Exhibit D - Rules and Regulations* *Exhibit E - Consent to Sublease/Assignment*	

TABLE OF CONTENTS

The Basic Lease Information set forth on Pages (i) and (ii) and this Lease are and shall be construed as a single instrument.

1. PREMISES.

Landlord hereby leases the Premises to Tenant upon the terms and conditions contained herein. Landlord and Tenant hereby agree that for purposes of this Lease, as of the Lease Date, the rentable square footage area of each of the Premises and the Building shall be deemed to be the number of rentable square feet as set forth in the Basic Lease Information.

2. TERM.

The Term of this Lease will begin on the Commencement Date and shall expire on the Termination Date. On the day that Tenant executes this Lease, Tenant will deliver to Landlord the original executed Lease, the Prepaid Rent, and the Security Deposit. Within ten (10) days of the date Tenant executes this Lease, Tenant will deliver to Landlord the Letter of Credit. Prior to the Commencement Date, Tenant shall also deliver insurance certificates evidencing the insurance required to be obtained by Tenant under Section 13 and Exhibit C if any of this Lease. If Landlord, for any reason whatsoever, cannot deliver possession of the Premises to Tenant on the Commencement Date in the condition specified in Section 10 hereof, then Landlord will not be subject to any liability nor shall the validity of the Lease be affected; however, the Rent Commencement Date of this Lease will be extended on a day-for-day basis and the Termination Date shall be extended commensurately. Notwithstanding anything to the contrary herein, in the event Landlord cannot deliver possession of the Premises to Tenant by March 31, 2022, Tenant shall have the right upon seven (7) days written notice to terminate this Lease without liability and Landlord shall return the Security Deposit and Letter of Credit within 30 days of such termination. In order to confirm the Commencement Date, the Rent Commencement Date and/or the Termination Date of this Lease, on or before the date that Tenant takes possession of the Premises, Landlord and Tenant will execute a written amendment to this Lease, in the form of Exhibit B hereto, which will specify the actual Commencement Date, Termination Date and the Rent Commencement Date.

3. INTENTIONALLY DELETED.

4. RENT.

Tenant agrees to pay Landlord the Base Rent, without prior notice or demand, abatement, offset, deduction, or claim, in advance at Landlord's Address on the Rent Commencement Date and thereafter on the first (1st) day of each month throughout the balance of the Term of the Lease. In addition to the Base Rent, commencing on January 1, 2023, Tenant shall pay Landlord in advance and thereafter on the first (1st) day of each month throughout the balance of the Term of this Lease, without prior notice or demand, abatement, offset, deduction or claim, as Additional Rent (as defined below), Tenant's Share of Operating Expenses and Tax Expenses (collectively, the "Expenses") for the amounts, if any, in excess of the Base Year. The term "Rent" whenever used herein refers to the aggregate of Base Rent and Additional Rent. The Rent for any fractional part of a calendar month at the commencement, expiration or termination of the Lease Term shall be a prorated amount of the Rent for a full calendar month based upon a thirty (30) day month. The first months Base Rent will be paid upon execution of the Lease and any prorated Rent for the final calendar month hereof shall be paid on the first day of the calendar month in which the Termination Date occurs.

5. ADDITIONAL RENT.

It is intended by Landlord and Tenant that this Lease be a modified gross lease, wherein Base Rent includes for Operating Expenses and Tax Expenses in the amount of the Base Year, except for janitorial and the Utility Expenses (as defined in Section 8.1 below), which Tenant shall pay in full as of the Commencement Date. For Operating Expenses and Tax Expenses in excess of the Base Year Expenses, Tenant will pay all Operating Expenses and Tax Expenses with respect to such excess. The costs and expenses described in this Section 5 and all other sums, charges, costs, and expenses specified in this Lease, other than Base Rent, are to be paid by Tenant to Landlord as additional rent ("Additional Rent").

5.1 Operating Expenses:

5.1.1 Definition of Operating Expenses: Tenant shall pay to Landlord Tenant's Share of all Operating Expenses in excess of the Operating Expenses for the Base Year, if any, as Additional Rent. The term "Operating Expenses" as used herein shall mean the total amounts paid or payable by Landlord in connection with the ownership, management, maintenance, repair, and operation of the Premises, the Building, and the Property. These Operating Expenses may include, but are not limited to, Landlord's cost of: (i) repairs to, and maintenance of, all wall and floor coverings, ceiling tiles and fixtures in the Building, the roof membrane, the non-structural portions of the roof and the non-structural elements of the perimeter and exterior walls of the Building, sidewalks and curbs, exterior windows, foundation and basement areas and any landscaping on the Property; (ii) annual insurance premium(s) insuring against personal injury and property damage (including, if Landlord elects, "all risk" or "special purpose" coverage) and all other insurance, including, but not limited to, earthquake and flood for the Property, rental value insurance against loss of Rent for a period of at least twelve (12) months commencing on the date of loss, and any deductible; (iii) the costs of supplying all utilities, the cost of operating, repairing, maintaining, and renovating the utilities, including without limitation, telephone, electricity, gas, sanitation, storm drainage, and elevator systems that are not paid directly by Tenant, if any; (iv) (a) modifications and/or new improvements to any portion of the Building occasioned by any rules, laws or regulations effective subsequent to the Lease Date; (b) reasonably necessary replacement improvements to any portion of the Building after the Commencement Date; and (c) new improvements to the Building that reduce operating costs or improve life/safety conditions, all of the foregoing as reasonably determined by Landlord, in its sole but reasonable discretion (if such costs are of a capital nature, then such costs or allocable portions thereof will be amortized on a straight-line basis over the estimated useful life of the capital item or fifteen (15) years whichever is shorter, together with reasonable interest on the amortized balance); (v) preventative maintenance and repair contracts including, but not limited to, contracts for elevator systems and heating, ventilation and air conditioning systems; (vi) security and fire protection services for the Building, if and to the extent, in Landlord's sole discretion, such services are provided; (vii) supplies, materials, equipment and other similar items used in the operation and/or maintenance of the Building and any reasonable

reserves established for replacement or repair of any improvements or equipment; (viii) any and all levies, charges, fees and/or assessments imposed on Landlord by any federal, state or local governmental agency or body or to any applicable owner's association or similar body; (ix) the service and maintenance items set forth in Section 12 below; (x) costs incurred in connection with the areas servicing the Building; (xi) fees and other costs, including management fees, consulting fees, legal fees and accounting fees, and the fees of all contractors and consultants in connection with the management, operation, maintenance and repair of the Building; (xii) payments under any equipment lease agreements; and (xiii) wages, salaries and other compensation and benefits, including taxes levied thereon, of all persons engaged in the operation, maintenance and security of the Building. As of the Lease Date, Landlord does not carry earthquake insurance. In the event that Landlord obtains earthquake insurance during the Term, the amount of such earthquake insurance shall be included in Operating Expenses for the Base Year.

5.1.2 Operating Expense Exclusions: Notwithstanding anything to the contrary contained herein, for purposes of this Lease, the term "Operating Expenses" shall not include the following: (i) legal and auditing fees (other than those fees reasonably incurred in connection with the maintenance and operation of all or any portion the Building or Property), leasing commissions, advertising expenses, and other costs incurred in connection with the original leasing of the Building or future re-leasing of any portion of the Building; (ii) depreciation of the Building or any other improvements situated on the Property; (iii) any items for which Landlord is actually reimbursed by insurance; (iv) costs of repairs or other work necessitated by fire, windstorm or other casualty (excluding any deductibles) and/or costs of repair or other work necessitated by the exercise of the right of eminent domain to the extent insurance proceeds or a condemnation award, as applicable, is actually received by Landlord for such purposes; provided, such costs of repairs or other work shall be paid by the parties in accordance with the provisions of Sections 27 and 28, below; (v) any interest or payments on any financing for the Building or the Property; (vi) any interest or penalties incurred as a result of Landlord's late payment of any invoice (provided that Tenant pays Tenant's Share of Operating Expenses and Tax Expenses to Landlord when due as set forth herein), and any bad debt loss, rent loss or reserves for same; (vii) advertising and promotional expenditures, including the cost of signage identifying the Building owners; (viii) overhead and profit increment paid to Landlord or to subsidiaries or affiliates of Landlord for goods and/or services in the Building to the extent the same exceeds the costs of such by unaffiliated third parties on a competitive basis; or any costs included in Operating Expenses representing an amount paid to a person, firm, corporation or other entity related to Landlord that are in excess of the amount that would have been paid in the absence of such relationship; (ix) any payments under a ground lease or master lease; (x) any expense related to the repair and maintenance of any structural element of the Building or the foundation; (xi) costs arising from the negligence or fault of Landlord or its agents, vendors or providers of materials; (xii) Landlord's charitable or political contributions; (xiii) costs arising in the base, shell or core of the Building or improvements installed by Landlord; (xiv) any expense due to the acquisition of any sculpture, painting or other objects of art; (xv) costs of operation of the business of the partnership or entity which constitutes Landlord that are not directly attributable to the operation of the Building, including partnership accounting and legal matters and the cost of defending any lawsuit that is unrelated to the operation of the Building; (xvi) the expenses incurred by Landlord in connection with any environmental clean-up, response action or remediation on, in, under or about the Premises or the Building to the extent not caused, directly or indirectly by Tenant, but excluding the costs of monitoring; and (xvii) "in-house" legal and/or accounting fees (other than the management fees).

5.2 Tax Expenses: Tenant shall pay to Landlord Tenant's Share of all real property taxes applicable to the Property in excess of real property taxes due for the Base Year, in accordance with Section 5.3 below. The term "Tax Expenses" shall mean and include, without limitation, any form of tax and assessment (general, special, supplemental, ordinary or extraordinary), commercial rental tax, payments under any improvement bond or bonds, license fees, license tax, business license fee, rental tax, transaction tax or levy imposed by any authority having the direct or indirect power of tax (including any city, county, state or federal government, or any school, agricultural, lighting, drainage or other improvement district thereof) as against any legal or equitable interest of Landlord in the Premises or any other portion of the Property or any other tax, fee, or excise, however described. The term "Tax Expenses" shall only exclude any franchise, estate, inheritance, net income, or excess profits tax imposed upon Landlord, or a penalty fee imposed as a result of Landlord's failure to pay Tax Expenses when due. Tenant will pay Landlord, as Additional Rent, irrespective of the Base Year, within ten (10) days after demand therefore, one hundred percent (100%) of (i) any increase in real property taxes attributable to any and all Alterations (defined below in Section 11), Tenant Improvements, fixtures, equipment or other improvements of any kind whatsoever placed in, on or about the Premises for the benefit of, at the request of, or by Tenant, and (ii) taxes and assessments levied or assessed upon or with respect to the possession, operation, use or occupancy by Tenant of the Premises or any other portion of the Property. Prior to delinquency, Tenant shall pay any and all taxes and assessments levied upon Tenant's Property (defined below in Section 11.2) located or installed in or about the Premises by, or on behalf of Tenant. To the extent any such taxes or assessments are not separately assessed or billed to Tenant, then Tenant shall pay, as Additional Rent, the amount thereof as invoiced by Landlord.

5.3 Payment of Expenses. Following the Base Year, Landlord will invoice Tenant for its share of increases in Operating Expenses and Tax Expenses at the end of each calendar year. Tenant will have thirty (30) days from receipt of invoice to pay Tenant's Share of said increases for the preceding year. Alternatively, Landlord may, in its sole and absolute discretion, invoice Tenant for said increases in advance based on an estimate to be paid by Tenant monthly. Should Landlord elect to collect increases in advance, Landlord will notify Tenant in writing. Beginning on January 1, 2023, Tenant will pay one-twelfth (1/12th) of the estimated amount of the Expenses in an amount that Landlord reasonably expects the Expenses for that calendar year to exceed the Expenses for the Base Year, as Additional Rent, and thereafter on the first (1st) day of each month throughout the remaining months of such calendar year. Thereafter, within the first ninety (90) days of any subsequent calendar year, Landlord will provide Tenant with an estimate of Operating Expenses and Tax Expenses for the calendar year, Tenant will pay the amount of the revised estimate on the first day of the next preceding calendar month. Until the Landlord delivers the estimate for the then current calendar year, Tenant's payments will be based upon the estimate from the previous year. At any point during any Lease Year (other than the Base Year), Landlord may revise its estimate for that calendar year if Landlord has a reasonable basis for the belief that the ultimate Operating Expenses and Tax Expenses for that year will be more than five percent (5%) above the current estimate, Landlord may deliver written notice to Tenant increasing the estimated payments for the remainder of that calendar year. Tenant will pay the increased amount beginning on the first day of the month following Landlord's delivery of said notice.

5.4 Annual Reconciliation: By June 30th of each calendar year in which Tenant is obligated for Tenant's Share of Expenses, or as soon thereafter as reasonably possible, Landlord shall furnish Tenant with an accounting of actual and accrued Operating Expenses and Tax Expenses for the prior calendar year. Within thirty (30) days of Landlord's delivery of such accounting, Tenant shall pay to Landlord the amount of any underpayment. Notwithstanding the foregoing, failure by Landlord to give such accounting by such date shall not constitute a waiver by Landlord of its right to collect any underpayment by Tenant at any time. Landlord may, at its option and in its sole and absolute discretion, either credit the amount of any overpayment by Tenant toward the next estimated monthly installment(s) falling due, or refund the amount of overpayment to Tenant within thirty (30) days thereafter. If the Term of the Lease expires prior to the annual reconciliation of Expenses Landlord shall have the right to reasonably estimate Tenant's Share of such Expenses, and (a) if Landlord determines that there has been an underpayment, Landlord may deduct such underpayment from Tenant's Security Deposit, and (b) if Landlord determines that there has been an overpayment, Landlord shall refund the amount of the overpayment to Tenant within thirty (30) days after the expirations of the Term. Failure by Landlord to accurately estimate Tenant's Share of such Expenses or to otherwise perform such reconciliation of expenses shall not constitute a waiver of Landlord's right to collect any of Tenant's underpayment at any time during the Term of the Lease or at any time after the expiration or earlier termination of this Lease.

5.5 Audit: After delivery to Landlord of at least thirty (30) days prior written notice, Tenant, at its sole cost and expense through any reputable accountant designated by it, shall have the right to examine and/or audit the books and records evidencing such costs and expenses for the previous one (1) calendar year, during Landlord's reasonable business hours but not more frequently than once during any calendar year. Any such accounting firm designated by Tenant may not be compensated on a contingency fee basis. The results of any such audit (and any negotiations between the parties related thereto) shall be maintained strictly confidential by Tenant and its accounting firm and shall not be disclosed, published, or otherwise disseminated to any other party other than to Landlord and its authorized agents. Landlord and Tenant each shall use its best efforts to cooperate in such negotiations and to promptly resolve any discrepancies between Landlord and Tenant in the accounting of the Expenses. In no event will any discrepancies be deemed a material breach of the Lease by Landlord. Once all of the discrepancies, if any, have been resolved, should the audit reveals that Landlord overstated Tenant's Share of Operating Expenses and Tenant's Share of Tax Expenses by more than five percent (5%), then Landlord will reimburse Tenant for the actual cost of the audit.

6. SECURITY DEPOSIT.

6.1 Cash Security Deposit: Simultaneously with Tenant's execution and delivery of this Lease, Tenant shall deliver to Landlord, the cash portion of Security Deposit for the faithful performance by Tenant of its obligations under this Lease. If Tenant is in default hereunder, Landlord may, but is not required to, use all or any portion of the Security Deposit to cure the default or to compensate Landlord for all damages sustained in connection therewith, including without limitation, Reletting Costs (as defined in Section 21.1). Tenant will, immediately on

demand, pay to Landlord the sum required to replenish and restore the Security Deposit to its full amount. At any time after Tenant has defaulted hereunder, Landlord may require an increase in the amount of the Security Deposit required hereunder for the then balance of the Term and Tenant shall, immediately on demand, pay to Landlord such additional sums. As soon as practicable after the expiration or termination of this Lease, Landlord will return the cash portion of the Security Deposit to Tenant, less any amounts that are reasonably necessary, as determined by Landlord in its reasonable discretion, to remedy Tenant's default(s) hereunder or to otherwise restore the Premises to a clean and safe condition, reasonable wear and tear excepted. If the cost to restore the Premises exceeds the amount of the Security Deposit, Tenant will immediately deliver to Landlord any excess sums. Landlord is not required to keep the Security Deposit separate from other funds, and, unless otherwise required by law, Tenant is not entitled to interest on the Security Deposit. Tenant hereby waives the provisions of Section 1950.7 of the California Civil Code, and all other provisions of law, now or hereafter in effect that provide that limit the types of damages to which a security deposit may be applied, it being agreed that Landlord may claim those sums reasonably necessary to compensate Landlord for any loss or damage, foreseeable or unforeseeable, caused by the act or omission of Tenant or any officer, employee, agent or invitee of Tenant. In no event or circumstance shall Tenant have the right to any use or application of the Security Deposit and, specifically, Tenant may not use the Security Deposit as the last month's Rent, as a credit or to otherwise offset any payments required hereunder.

6.2 Letter of Credit: In addition to the cash Security Deposit, Tenant will deliver to Landlord within ten (10) days following Tenant's execution and delivery of this Lease an irrevocable letter of credit payable in the San Francisco Bay Area, California issued for the benefit of the Landlord by a bank reasonably satisfactory to Landlord, in the amount of Eight Hundred Thousand Dollars ($800,000.00) (the "Letter of Credit"). The Letter of Credit will be irrevocable for the term thereof and will provide that it is automatically renewable for a period ending not earlier than sixty (60) days after the expiration of the Term without any action whatsoever on the part of Landlord. However, the issuing bank will have the right not to renew said Letter of Credit on written notice to Landlord given not less than sixty (60) days before the expiration of the Term (it being understood, however, that the privilege of the issuing bank not to renew said letter of credit will not, in any event, diminish the obligation of Tenant to maintain such irrevocable Letter of Credit with Landlord through the date which is sixty (60) days after the expiration of the Term).

(a) The Letter of Credit must be issued by a bank reasonably satisfactory to Landlord, in a form reasonably acceptable to Landlord, and must provide, among other things, in effect that:

(i) Landlord, or its then managing agent, will have the right to draw down an amount up to the face amount of the Letter of Credit upon the presentation to the issuing bank of Landlord's (or Landlord's then managing agent's) statement that the drawer is entitled to draw upon the Letter of Credit pursuant to this Lease, it being understood that if Landlord or its managing agent is a corporation, limited liability company, partnership or other entity, then such statement will be signed by an officer or member (if a corporation or limited liability company), a general partner (if a partnership), or any authorized party (if another entity);

(ii) The Letter of Credit will be honored by the issuing bank without inquiry as to the accuracy thereof and regardless of whether the Tenant disputes the content of such statement;

(iii) In the event of a transfer of Landlord's interest in the Property, Landlord will have the right to transfer the Letter of Credit to the transferee at no cost to Landlord or transferee, and thereupon, Landlord will, without any further agreement between the parties, be released by Tenant from all liability therefor, and it is agreed that the provisions hereof shall apply to every transfer or assignment of said Letter of Credit to a new landlord;

(iv) Tenant further covenants that it will not assign or encumber said Letter of Credit or any part thereof and that neither Landlord nor its successors or assigns will be bound by any such assignment, encumbrance, attempted assignment or attempted encumbrance.

(b) Without limiting the generality of the foregoing, if the Letter of Credit expires earlier than sixty (60) days after the expiration of the Term, or the issuing bank notifies Landlord that it will not renew the Letter of Credit, Landlord will accept a renewal thereof or substitute Letter of Credit (such renewal or substitute letter of credit to be in effect not later than thirty (30) days prior to the expiration thereof), irrevocable and automatically renewable as above provided to sixty (60) days after the end of the Term upon the same terms as the expiring letter of credit or such other terms as may be acceptable to Landlord. However, (i) if the Letter of Credit is not timely renewed or a substitute Letter of Credit is not timely received, or (ii) if Tenant fails to maintain the Letter of Credit in the amount and terms set forth in this Section 6.2, Tenant, at least thirty (30) days before the expiration of the Letter of Credit, or immediately upon its failure to comply with each and every term of this Section 6.2, must deposit with Landlord cash security in the amounts required by, and to be held subject to and in accordance with, all of the terms and conditions set forth in this Section 6.2 hereof, failing which the Landlord may present such letter of credit to the bank, in accordance with the terms of this Section 6.2, and the entire sum secured thereby will be paid to Landlord, to be held by Landlord as provided in this Section 6.1.

(c) Subject to the terms of this Section 6.1, and further provided Tenant has paid all Rent due under this Lease when due or after notice and within the applicable cure period, during each 12-month period immediately preceding the effective date of any reduction in the Letter of Credit, Tenant shall have the right to reduce the amount of the Letter of Credit on each anniversary of the Commencement Date through the Lease Term by the amount of Eighty Thousand Dollars ($80,000.00) per annum. If Tenant is not entitled to reduce the Letter of Credit as of a particular anniversary of the Commencement Date due to Tenant's failure to timely pay all Rent beyond all applicable notice and cure periods during the 12 months prior in time, then the right to all subsequent reduction(s) shall terminate. Notwithstanding anything to the contrary contained in this Section 6.1(c), the occurrence of any material default under this Lease that has not been cured after notice and within the applicable cure period, shall extinguish all further right to reduce the amount of the Letter of Credit as described herein. Any reduction in the Letter of Credit shall be accomplished by Tenant providing Landlord with a substitute letter of credit in the reduced amount and otherwise in compliance with all terms of this Section.

7. LATE CHARGES.

Any and all sums or charges set forth in this Section 7 will be paid as Additional Rent. Tenant acknowledges that late payment (the fifth (5th) day of each month or any time thereafter) by Tenant to Landlord of Rent and all other sums due hereunder, will cause Landlord to incur costs not contemplated by this Lease. Such costs may include, without limitation, processing and accounting charges, and late charges that may be imposed on Landlord by the terms of any note secured by any encumbrance against the Premises, and late charges and penalties due to the late payment of real property taxes on the Premises. Therefore, if any installment of Rent or any other sum payable by Tenant is not received by Landlord within five (5) days from the date due (provided, however, that with respect to Tenant's first failure during each Lease year to pay any installment of Rent or any other sum payable by Tenant, Landlord shall provide written notice to Tenant of such failure and Tenant shall have five (5) days following the date of such notice to pay such past due amount), Tenant shall promptly pay to Landlord a late charge, as liquidated damages, in an amount equal to ten percent (10%) of such delinquent amount plus interest on such delinquent amount at the maximum legal rate. In addition to the late charge described above, any Rent or other amounts owing hereunder that are not paid within ten (10) days the date that they are due (provided, however, that with respect to Tenant's first failure during each Lease year to pay any installment of Rent or any amounts owing hereunder, Landlord shall provide written notice to Tenant of such failure and Tenant shall have five (5) days following the date of such notice to pay such past due amount) will bear interest from the date when due until paid at a rate that is the higher of (i) ten percent (10%) per annum or (ii) the highest rate permitted by applicable law. The parties agree that this late charge and the other charges referenced above represent a fair and reasonable estimate of the costs that Landlord will incur by reason of such late payment by Tenant, excluding attorneys' fees and costs. Acceptance of any late charge or other charges shall not constitute a waiver by Landlord of Tenant's default with respect to the delinquent amount, nor prevent Landlord from exercising any of the other rights and remedies available to Landlord for any other breach of Tenant under this Lease. If a late charge becomes payable for three (3) installments of Rent, then Landlord, at Landlord's sole option, can either require the Rent be paid quarterly in advance or be paid monthly in advance by cashier's check or by electronic funds transfer.

8. UTILITIES AND SERVICES.

8.1 Utility Expenses: Tenant shall arrange for and pay for all water, gas, heat, light, power, telephone, and other utilities and services supplied to the Premises, together with any taxes thereon, directly to the utility providers. Tenant shall also provide for its own garbage and janitorial service, at its sole cost and expense.

8.2 Interruption of Use: Tenant agrees that Landlord is not liable for damage, by abatement of Rent or otherwise, for failure to furnish or delay in furnishing any service (including electricity, telephone and telecommunications services), or for any diminution in the quality or quantity thereof, when such failure or delay or diminution is occasioned, in whole or in part, by breakage, repairs, replacements, shortages, outages, brown-outs, black-outs, or improvements, by any strike, lockout, or other labor trouble, by inability to secure electricity, gas, water, or other fuel at the Property after reasonable effort to do so, by any riot or other dangerous condition, emergency, accident, casualty whatsoever, by act or default of Tenant or any of Tenant's agents, employees, contractors or service-providers, or by any other cause (other than arising from or in connection with the negligence or willful misconduct of Landlord); and such failure, delay or diminution will never be deemed to constitute an eviction, interruption, cessation or disturbance of Tenant's use and possession of the Premises or relieve Tenant from paying Rent or performing any of its obligations under the Lease. Furthermore, Landlord shall not be liable under any circumstances for any loss of, or injury to, property or for injury to, or interference with, Tenant's business, including, without limitation, loss of profits, however occurring, through or in connection with or incidental to a failure to furnish any of the services or utilities set forth in Section 8 (other than arising due to or in connection with the negligence of willful misconduct of Landlord). Tenant acknowledges that the Premises may become subject to the rationing or partial or intermittent "blackouts" of utility services or restrictions on utility use as required by a public utility company, governmental agency or other similar entity having jurisdiction thereof. Tenant agrees that its tenancy and occupancy hereunder shall be subject to such rationing restrictions as may be imposed upon Landlord, Tenant, the Premises, or other portions of the Building, and Tenant shall in no event be excused or relieved from any covenant or obligation to be kept or performed by Tenant by reason of any such rationing or restrictions.

9. USE OF PREMISES.

9.1 Approved Use: The Premises are to be used solely for the purposes and uses specified in the Basic Lease Information and for no other uses or purposes without Landlord's prior written consent, which may be withheld in Landlord's reasonable discretion. Tenant's use of the Premises will be in accordance with the rules and regulations for the Building, as set forth in Exhibit D hereto, and any other reasonable rules and regulations promulgated by Landlord now or hereafter enacted relating the operation of the Premises and/or any other part of the Building (collectively, the "Rules and Regulations").

9.2 Prohibition on Use: Tenant shall not use the Premises or permit anything to be done in or about the Premises nor keep or bring anything therein that will in any way increase the existing rate of or affect any policy of fire or other insurance upon the Building or any of its contents, or cause a violation or cancellation of any insurance policy. No auctions may be held or otherwise conducted in, on or about any portion of the Premises or the Building without Landlord's prior written consent thereto, in its sole and absolute discretion. Tenant shall not do or permit anything to be done in or about the Premises that will in any way obstruct or interfere with the rights of Landlord or other tenants or occupants of any portion of the Building. The Premises shall not be used for any unlawful purpose. Tenant will not cause, maintain, or permit any private or public nuisance in, on or about any portion of the Premises or the Building, including, but not limited to, any offensive odors, noises, fumes, or vibrations.

10. CONDITION OF PREMISES.

Landlord shall deliver the Premises with the Covered Items (as defined in Section 12.1 below) in good order and operating condition. Tenant agrees to accept the Premises on the Commencement Date as then being suitable for Tenant's intended use and in good operating order, condition, and repair in its then existing "AS IS" condition, except as otherwise set forth in Exhibit C hereto. The Tenant Improvements (defined in Exhibit C) shall be installed in accordance with the terms, conditions, criteria, and provisions set forth in Exhibit C. Landlord shall advance the Tenant Improvement Allowance to Tenant for the purposes of constructing the Tenant Improvements in accordance with the procedures described in Exhibit C. By taking possession of the Premises, Tenant shall be deemed to have accepted the Premises in good condition and state of repair and in full compliance with the Delivery Condition set forth in Exhibit C, punchlist items excepted. Tenant expressly acknowledges and agrees that neither Landlord nor any of Landlord's agents, representatives or employees has made any representations as to the suitability, fitness, or condition of the Premises for the conduct of Tenant's business or for any other purpose, including without limitation, any storage incidental thereto.

11. ALTERATIONS; AND SURRENDER OF PREMISES.

11.1 Alterations: Tenant will not install any signs, fixtures, improvements, nor make or permit any other alterations or additions (individually, an "Alteration", and collectively, the "Alterations") to the Premises without the prior written consent of Landlord, which consent shall not be unreasonably withheld so long as any such Alteration is in compliance with Section 11 of this Lease and does not affect the Building systems or the structural integrity of the Premises or the Building. It is hereby acknowledged and agreed that the Tenant Improvement shall not constitute "Alternations" and shall be governed by Exhibit C. Any Alteration affecting the structure of the Building or Building systems is subject to the sole and absolute discretion of Landlord. If any such Alteration is expressly permitted by Landlord in writing, Tenant shall deliver at least twenty (20) days prior notice to Landlord, from the date Tenant intends to commence construction, sufficient to enable Landlord to post a Notice of Non-Responsibility. In all events, Tenant shall obtain all permits or other governmental approvals prior to commencing any of such work and deliver copies to Landlord. All Alterations shall be at Tenant's sole cost and expense, and shall be installed by a licensed contractor (reasonably approved by Landlord) in compliance with all applicable Laws (including, but not limited to, the ADA). Tenant shall keep the Premises and the Property free from any liens arising out of any work performed, materials furnished or obligations incurred by or on behalf of Tenant. Tenant shall, prior to construction of any and all Alterations, cause its contractor(s) and subcontractor(s) to provide insurance as reasonably required by Landlord.

11.2 Surrender of Premises: At the expiration of the Term or earlier termination of this Lease, Tenant shall surrender the Premises to Landlord in good condition and repair (damage by acts of God, casualty, and normal wear and tear excepted), but with all interior walls cleaned, any carpets cleaned, all floors cleaned. On or before the expiration or earlier termination of this Lease, Tenant shall remove all of Tenant's Property (as hereinafter defined) from the Premises. Tenant shall repair any damage caused by such removal of the Tenant's Property. For purposes hereof, the term "Tenant's Property" shall mean and refer to all

equipment, trade fixtures, computer wiring and cabling, furnishings, inventories, goods, and personal property of Tenant. Any of Tenant's Property not so removed by Tenant as required herein shall be deemed abandoned and may be removed, and disposed of by Landlord at Tenant's expense, and Tenant waives all claims against Landlord for any damages resulting from Landlord's retention and disposition of such property; provided, however, Tenant shall remain liable to Landlord for all costs incurred in disposing of such abandoned property of Tenant. All Tenant Improvements and Alterations, except those that Landlord requires Tenant to remove, will remain in the Premises as the property of Landlord.

12. SERVICES AND MAINTENANCE.

12.1 Maintenance by Landlord: Landlord shall maintain the structural portions of the Building, including the roof, foundation, parking lot, and building systems and utilities to the point where they enter the Building structure itself (collectively, "Covered Items"), in reasonably good order and condition except for damage occasioned by the negligence or willful misconduct of Tenant, which damages shall be repaired by the Landlord at Tenant's expense. Tenant acknowledges that Landlord does not assume any responsibility for the security of persons or property in, upon or about the Premises or the Building. Tenant expressly releases Landlord from any liability for theft, burglary, or damage or injury to persons or property caused by the persons gaining access to the Building or the Premises, except as occasioned by the active negligence or willful misconduct of Landlord or its authorized representatives ("Covered Claims"). Tenant shall indemnify and defend Landlord from and against all such Covered Claims by Tenant's agents, contractors, employees, subtenants, licensees, invitees, and visitors. Te

12.2 Services by Landlord: Tenant shall be entitled to use the parking spaces on a non-reserved basis; however Tenant acknowledges that Landlord does not monitor the parking on the Property. Tenant will pay the utility costs associated with all Landlord services provided to the Premises in accordance with Section 8.1 above. Tenant will provide for its own janitorial service for the Premises, at Tenant's own cost and expense. Tenant agrees to cooperate with Landlord and to abide by all rules and restrictions that Landlord may prescribe for the proper functioning and protection of heating, ventilating and air conditioning systems. Tenant acknowledges that the controls for the HVAC service to the Premises are located within the Premises and Tenant shall cause the HVAC to be turned on in the morning and off every evening. Landlord shall not be in default hereunder or be liable for any damages directly or indirectly resulting from, nor shall it constitute a constructive eviction of the Tenant, nor shall the Rent be reserved or abated by reason of (a) the installation, use or interruption of use of any equipment in connection with furnishing any of the foregoing services, or (b) the failure to furnish or delay in furnishing any such service when such failure or delay is caused by accident or any condition beyond the reasonable control of Landlord or by the making of necessary repairs or improvements to the Premises or the Building, unless occasioned by the negligence or willful misconduct of Landlord.

12.3 Common Area: Intentionally Deleted.

12.4 Security: Tenant may install its own security system for the Premises, at its sole cost and expense. Installation of the security system shall be in accordance with Section 11 of this Lease.

13. INSURANCE.

13.1 Types of Insurance: Tenant shall maintain in full force and effect at all times during the Term of this Lease, at Tenant's sole cost and expense, for the protection of Tenant and Landlord, the following policies of insurance:

13.1.1 Commercial General Liability Insurance (or its equivalent approved by Landlord in its reasonable discretion, if such policy form is no longer issued) insuring, among other liabilities, claims arising out of bodily injury, personal injury and property damage arising out of Tenant's operations and contractual liabilities, including a Broad Form endorsement covering the insuring provisions of this Lease and the performance by Tenant of the indemnity set forth in Section 14 of this Lease, in limits not less than Three Million Dollars ($3,000,000) combined single limit for each occurrence for bodily injury, personal injury and property damage liability. Such insurance shall insure, on an occurrence basis, against all liability of Tenant, its employees, and agents arising out of or in connection with Tenant's use of the Premises;

13.1.2 Worker's Compensation and Employer's Liability Insurance, as required by law;

13.1.3 "All Risk" or "Special Purpose" Property Insurance for Tenant's personal property, including without limitation, sprinkler leakage, and if the property of any of Tenant's invitees, vendors or customers is to be kept in the Premises, warehouser's legal liability or bailee's customer insurance. All insurance under this Section 13.1.3 will be written on a replacement cost basis (without deduction for depreciation) in an amount equal to One Hundred Percent (100%) of the full replacement value of any property damaged; and

13.1.4 Such other insurance or higher limits of liability as is then customarily required for similar types of buildings within the general vicinity of the Building as may be required by any of Landlord's lenders.

13.2 Insurance Policies: Insurance required to be maintained by Tenant shall be written by companies (i) licensed to do business in the State of California, (ii) domiciled in the United States of America, and (iii) having a "General Policyholders Rating" of at least A:X (or such higher rating as may be required by a lender having a lien on the Premises) as set forth in the most current issue of "A.M. Best's Rating Guides." Any deductible amounts under any of the insurance policies required hereunder shall not exceed Five Thousand Dollars ($5,000). Tenant shall deliver to Landlord certificates of insurance and true and complete copies of any and all endorsements required herein for all insurance required to be maintained by Tenant hereunder at the time of execution of this Lease by Tenant. Tenant shall, at least fifteen (15) days prior to expiration of each policy, furnish Landlord with certificates of renewal or "binders" thereof. Each certificate shall expressly provide that such policies shall not be cancelable or otherwise subject to material modification except after thirty (30) days prior written notice to the parties named as additional insureds as required in this Lease (except for cancellation for nonpayment of premium, in which event cancellation shall not take effect until at least ten (10) days' notice has been given to Landlord).

13.3 Additional Insureds and Coverage: Each of Landlord, Landlord's property management company or agent, and Landlord's lender(s) having a lien against the Premises or any other portion of the Property shall be named as additional insureds or loss payees (as applicable) under all of the policies required in Section 13. Additionally, all of such policies shall provide for severability of interest. All insurance to be maintained by Tenant shall, except for workers' compensation and employer's liability insurance, be primary, without right of contribution from insurance maintained by Landlord. Any umbrella/excess liability policy (which shall be in "following form") shall provide that if the underlying aggregate is exhausted, the excess coverage will drop down as primary insurance. The limits of insurance maintained by Tenant shall not limit Tenant's liability under this Lease. It is the parties' intention that the insurance to be procured and maintained by Tenant as required herein shall provide coverage for any and all damage or injury arising from or related to Tenant's operations of its business and/or Tenant's or Tenant's officers, directors, agents, employees, invitees and contractors' (collectively, the "Tenant's Representatives") use of the Premises and any of the areas within the Building. Notwithstanding anything to the contrary contained herein, to the extent Landlord's cost of maintaining insurance with respect to the Building is increased as a result of Tenant's acts, omissions, Alterations, improvements, use or occupancy of the Premises, Tenant shall pay one hundred percent (100%) of, and for, each such increase as Additional Rent.

13.4 Failure of Tenant to Purchase and Maintain Insurance: If Tenant fails to obtain and maintain the insurance required herein throughout the Term of this Lease, Landlord may, but without obligation to do so, purchase the necessary insurance and pay the premiums therefore. If Landlord so elects to purchase such insurance, Tenant shall promptly pay to Landlord as Additional Rent, the amount so paid by Landlord, upon Landlord's demand therefore. In addition, Landlord may recover from Tenant and Tenant agrees to pay, as Additional Rent, any and all losses, damages, expenses and costs which Landlord may sustain or incur by reason of Tenant's failure to obtain and maintain such insurance.

13.5 Waiver of Subrogation: Landlord and Tenant hereby mutually waive their respective rights of recovery against each other for any loss of, or damage to, either parties' property to the extent that such loss or damage is insured by an insurance policy required to be in effect at the time of such loss or damage. Each party shall obtain any special endorsements, if required by its insurer, whereby the insurer waives its rights of subrogation against the other party. This provision is intended to waive fully, and for the benefit of the parties hereto, any rights and/or claims which might give rise to a right of subrogation in favor of any insurance carrier.

14. INDEMNITY AND LIMITATION OF LIABILITY.

14.1 Indemnity: Except to the extent of damage resulting from the sole gross negligence or willful misconduct of Landlord or its authorized representatives, Tenant agrees to indemnify and defend (with counsel reasonably acceptable to Landlord) Landlord and Landlord's lenders, partners, members, agents, directors, officers, employees, representatives, contractors, successors and assigns (collectively, the "Indemnitees") from and against all

liabilities, damages, demands, penalties, costs, claims, losses, judgments, charges and expenses (including reasonable attorneys' fees, costs and expenses) (collectively, "Claims") arising from or in any way related to, directly or indirectly, (i) Tenant's or Tenant's Representatives' use or occupancy of the Premises and other portions of the Building, (ii) the conduct of Tenant's business, or (iii) Tenant's failure to perform any covenant or obligation of Tenant under this Lease. Tenant agrees that the obligations of Tenant herein shall survive the expiration or earlier termination of this Lease.

14.2 Limitation of Liability: Except to the extent of damage resulting from the sole gross negligence or willful misconduct of Landlord or its authorized representatives, to the fullest extent permitted by law, Tenant agrees that neither Landlord nor any of the Indemnitees shall at any time or to any extent whatsoever be liable, responsible or in any way accountable for any loss, liability, injury, death or damage to persons or property which at any time may be suffered or sustained by Tenant or by any person(s) whomsoever who may at any time be using, occupying or visiting the Premises or any other portion of the Building, including, but not limited to, any acts, errors or omissions of any other tenants or occupants of the Building. Tenant shall not, in any event or circumstance, be permitted to offset, avoid, mitigate, diminish, or otherwise credit against any payments of Rent required herein for matters for which Landlord may be liable hereunder.

15. ASSIGNMENT AND SUBLEASING.

15.1 Prohibition: Except for Permitted Transfers (as defined below), Tenant shall not, without the prior written consent of Landlord (which consent shall not be unreasonably withheld, conditioned or delayed), assign, sublease, grant any license or concession or otherwise transfer this Lease or any interest herein, permit any assignment or other such transfer of this Lease or any interest hereunder by operation of law, sublet the Premises or any part thereof, or permit the use of the Premises by any persons other than Tenant and Tenant's Representatives (all of the foregoing are sometimes referred to collectively as "Transfers" and any person to whom any Transfer is made or sought to be made is sometimes referred to as a "Transferee"). No consent to any Transfer shall constitute a waiver of the provisions of this Section 15, and all subsequent Transfers may be made only with the prior written consent of Landlord, which consent shall not be unreasonably withheld, but which consent shall be subject to the provisions of this Section 15. Landlord's consent shall not be required for any Transfer to an affiliate, subsidiary of Tenant in which Tenant owns no less than fifty percent (50%) of the ownership interest or an entity that has purchased all or substantially all of Tenant's assets. Any Transfer to an affiliated entity shall not be effective until the Transferee assumes all of the obligations under this Lease in writing to Landlord.

15.2 Request for Consent: If Tenant seeks to make a Transfer, Tenant shall notify Landlord, in writing, and deliver to Landlord at least thirty (30) days (but not more than one hundred eighty (180) days) prior to the proposed commencement date of the Transfer (the "Proposed Effective Date") the following information and documents (the "Tenant's Notice"): (i) a description of the portion of the Premises to be transferred (the "Subject Space"); (ii) all of the terms of the proposed Transfer including without limitation, the Proposed Effective Date, the name and address of the proposed Transferee, and a copy of the existing or proposed assignment, sublease or other agreement governing the proposed Transfer; (iii) current financial statements of

the proposed Transferee certified by an officer, member, partner or owner thereof, and any such other information as Landlord may then reasonably require, including without limitation, audited financial statements for the previous three (3) most recent consecutive fiscal years; (iv) the Plans and Specifications (defined below), if any; and (v) such other information as Landlord may then reasonably require. Tenant shall give Landlord the Tenant's Notice by registered or certified mail addressed to Landlord at Landlord's Address specified in the Basic Lease Information. Within fifteen (15) days after Landlord's receipt of the Tenant's Notice (the "Landlord Response Period") Landlord shall notify Tenant, in writing, of its determination with respect to such requested proposed Transfer and the election to recapture the Subject Space. If Landlord elects to recapture the Subject Space, Tenant may withdraw its request for consent within twenty (20) days thereafter ("Tenant's Request Withdrawal") and this Lease will continue in full force and effect. If Landlord does not elect to recapture pursuant to the provisions of Section 15.5 hereof and Landlord does consent to the requested proposed Transfer, Tenant may thereafter assign its interests in and to this Lease or sublease all or a portion of the Premises to the same party and on the same terms as set forth in the Tenant's Notice. If Landlord fails to respond to Tenant's Notice within Landlord's Response Period, then, the proposed Transfer shall then be deemed disapproved by Landlord. As Additional Rent hereunder, Tenant shall upon the Transfer pay to Landlord, a transfer fee in the amount of one thousand dollars ($1,000) ("Transfer Fee"), plus Tenant shall promptly reimburse Landlord for actual and reasonable legal and other expenses incurred by Landlord in connection with any actual or proposed Transfer. This Transfer Fee is due at the time that any request for Transfer is made.

15.3 Criteria for Consent: Tenant acknowledges and agrees that, among other circumstances for which Landlord could reasonably withhold consent to a proposed Transfer, it shall be reasonable for Landlord to withhold its consent where (i) Tenant is or has been in default of its obligations under this Lease beyond applicable notice and cure periods; (ii)) the use to be made of the Premises by the proposed Transferee is prohibited under this Lease or differs from the uses permitted under this Lease, (iii) the proposed Transferee or its business is subject to compliance with additional requirements of the ADA beyond those requirements which are applicable to Tenant, unless the proposed Transferee shall (a) first deliver plans and specifications for complying with such additional requirements (the "Plans and Specifications") and obtain Landlord's written consent thereto, and (b) comply with all Landlord's conditions contained in such consent, (iv) the proposed Transferee does not intend to occupy a substantial portion of the Premises assigned or sublet to it, (v) Landlord reasonably disapproves of the proposed Transferee's business operating ability or history or creditworthiness of the business to be conducted by the proposed Transferee at the Premises, (vi) the proposed Transfer would cause Landlord to violate another agreement or obligation to which Landlord is a party or otherwise subject, or (vii) Landlord otherwise reasonably determines that the proposed Transfer would have the effect of decreasing the value of the Building.

15.4 Effectiveness of Transfer and Continuing Obligations: Prior to the date on which any permitted Transfer becomes effective, Tenant shall deliver to Landlord (i) a counterpart of the fully executed Transfer document, and (ii) Landlord's standard form of Consent to Assignment or Consent to Sublease attached hereto as Exhibit E, as applicable, executed by Tenant and the Transferee in which each of Tenant and the Transferee confirms its obligations pursuant to this Lease. Failure or refusal of a Transferee to execute any such consent instrument shall not release or discharge the Transferee from its obligation to do so or from any

liability as provided herein. The voluntary, involuntary, or other surrender of this Lease by Tenant, or a mutual cancellation by Landlord and Tenant, shall not work a merger, and any such surrender or cancellation shall, at the option of Landlord, either terminate all or any existing subleases or operate as an assignment to Landlord of any or all of such subleases. Each permitted Transferee shall assume and be deemed to assume this Lease and shall be and remain liable jointly and severally with Tenant for payment of Rent and for the due performance of, and compliance with all the terms, covenants, conditions, and agreements herein contained on Tenant's part to be performed or complied with, for the Term of this Lease. No Transfer shall affect the continuing primary liability of Tenant (which, following assignment, shall be joint and several with the assignee) to perform any of the terms, covenants, and conditions of this Lease. For purposes hereof, if Tenant is a business entity, direct or indirect transfer of fifty percent (50%) or more of the ownership interest of the entity (whether in a single transaction or in the aggregate through more than one transaction) shall be deemed a change in Control and shall be subject to the provisions of Section 15.8 hereof. Any and all options, first rights of refusal, tenant improvement allowances and other similar rights granted to Tenant in this Lease, if any, shall not be assignable by Tenant unless expressly authorized in writing by Landlord. Any transfer made without Landlord's prior written consent, shall, at Landlord's option, be null, void and of no effect, and shall, at Landlord's option, constitute a material default by Tenant of this Lease.

15.5 Recapture: Landlord shall have the right, to be exercised by giving written notice to Tenant within fifteen (15) days from receipt of Tenant's Notice, to recapture the Subject Space described in the Tenant's Notice, subject to Tenant's Request Withdrawal. If such recapture notice is given, it shall serve to terminate this Lease with respect to the proposed Subject Space, or, if the proposed Subject Space covers all the Premises, it shall serve to terminate the entire Term of this Lease, in either case, as of the Proposed Effective Date. If this Lease is terminated pursuant to the foregoing provisions with respect to less than the entire Premises, the Rent shall be adjusted on the basis of the proportion of rentable square feet retained by Tenant to the rentable square feet originally demised and this Lease as so amended shall continue thereafter in full force and effect. Notwithstanding the foregoing, Landlord shall not recapture for the purposes of entering into a direct lease with Tenant's proposed transferee.

15.6 Transfer Premium: If Landlord consents to a Transfer, as a condition thereto which the Tenant hereby agrees is reasonable, Tenant shall pay to Landlord, as Additional Rent, fifty percent (50%) any "Transfer Premium" received by Tenant from any Transferee. The term "Transfer Premium" shall mean all rent, additional rent, and other consideration payable by such Transferee that either initially or over the term of the Transfer exceeds the Rent or pro rata portion of the Rent, as the case may be, for such space reserved in the Lease, less the "Reasonable Costs of the Transfer". "Reasonable Costs of the Transfer" means the actual costs incurred by Tenant in effectuating the Transfer, including the cost of constructing any tenant improvements as required by the Transfer to the extent attributable to the Subject Space, leasing commissions, professional fees associated with space planning and any improvements, and legal fees. If less than all of the Premises is sublet or assigned, then the Transfer Premium shall be determined pro-ratably on a per-square-foot basis.

15.7 Waiver: Notwithstanding any Transfer, or any indulgences, waivers or extensions of time granted by Landlord to any Transferee, or failure by Landlord to take action against any Transferee, Tenant agrees that Landlord may, at its option, proceed against Tenant without having taken action against or joined such Transferee, except that Tenant shall have the benefit of any indulgences, waivers and extensions of time granted to any such Transferee.

15.8 Permitted Transfer: Notwithstanding the foregoing, Tenant may Transfer all or part of its interest in this Lease or all or part of the Premises (a "Permitted Transfer") to the following types of entities (a "Permitted Transferee") without the written consent of Landlord or fulfilling the requirements of the foregoing subsections: (a) any parent, subsidiary or affiliate corporation which Controls (as defined below), is Controlled by or is under common Control with Tenant (collectively, an "Affiliate"); (b) any corporation, limited partnership, limited liability partnership, limited liability company or other business entity in which or with which Tenant, an Affiliate of Tenant, or their respective corporate successors or assigns, is merged or consolidated, in accordance with applicable statutory provisions governing merger and consolidation of business entities, so long as in both cases (a) and (b), (i) Tenant's obligations hereunder are assumed by the Permitted Transferee; and (ii) the Permitted Transferee satisfies the Net Worth Threshold as of the effective date of the Permitted Transfer; or (c) any corporation, limited partnership, limited liability partnership, limited liability company or other business entity which acquires all or substantially all of Tenant's assets and/or ownership interests, if the Transferee satisfies the Net Worth Threshold as of the effective date of the Transfer; provided, that no such Permitted Transfer is a subterfuge by Tenant to avoid its obligations under this Lease. Tenant shall remain liable for the performance of all of the obligations of Tenant hereunder, or if Tenant no longer exists because of a merger, consolidation, or acquisition, the surviving or acquiring entity shall expressly assume in writing, the obligations of Tenant hereunder. Additionally, the Permitted Transferee shall comply with all of the terms and conditions of this Lease, whether accruing prior to and/or from and after the consummation of the Transfer. No later than ten (10) days prior to the effective date of any Permitted Transfer, Tenant shall (1) notify Landlord in writing of such Permitted Transfer, and (2) furnish Landlord with copies of (A) the instrument effecting any of the foregoing Permitted Transfers, (B) documentation establishing Tenant's satisfaction of the requirements set forth above applicable to any such Permitted Transfer, and (3) evidence of insurance as required under this Lease with respect to the Permitted Transferee (collectively, the "Permitted Transferee Information"). Landlord hereby acknowledges that the prospective transaction effecting a Permitted Transfer ("M&A Activity") may be non-public and highly confidential. Landlord shall maintain all information on the M&A Activity, including the Permitted Transferee Information strictly confidential. The occurrence of a Permitted Transfer shall not waive Landlord's rights as to any subsequent Transfers. As used herein, the term "Net Worth Threshold" shall mean the proposed Permitted Transferee has a tangible net worth equal to or greater than that of the originally named Tenant as of December 31 of the year prior to the Commencement Date (determined in accordance with generally accepted accounting principles consistently applied and excluding from the determination of total assets all assets which would be classified as intangible assets under generally accepted accounting principles, including, without limitation, goodwill, licenses, trademarks, trade names, copyrights and franchises The term "Control" shall mean the possession of the power to direct or cause the direction of the management and policy of such corporation, partnership, limited liability company or other entity, whether through the ownership of voting securities, by statute or by contract, and whether directly or indirectly through Affiliates.

16. INTENTIONALLY DELETED.

17. SUBORDINATION.

To the fullest extent permitted by law, this Lease, the rights of Tenant under this Lease and Tenant's leasehold interest shall be automatically subject and subordinate at all times to: (i) all ground leases or underlying leases which may now exist or hereafter be executed affecting the Building or the Property, and (ii) the lien of any mortgage or deed of trust that may now or hereafter exist for which the Building, ground leases or underlying leases or Landlord's interest or estate in any of said items is specified as security. Notwithstanding the foregoing, Landlord or any such ground lessor, mortgagee, or any beneficiary shall have the right to require this Lease be superior to any such ground leases or underlying leases or any such liens, mortgage, or deed of trust. If any ground lease or underlying lease terminates for any reason or any mortgage or deed of trust is foreclosed or a conveyance in lieu of foreclosure is made for any reason, Tenant shall attorn to and become the Tenant of the successor in interest to Landlord, provided such successor in interest does not disturb Tenant's use, occupancy or quiet enjoyment of the Premises so long as Tenant is not in material default of the terms and provisions of this Lease. The successor in interest to Landlord following foreclosure, sale or deed in lieu thereof shall not be: (a) liable for any act or omission of any prior lessor or with respect to events occurring prior to acquisition of ownership; (b) subject to any offsets or defenses that Tenant might have against any prior lessor; (c) bound by prepayment of more than one (1) month's Rent, except in those instances when Tenant pays Rent quarterly in advance pursuant to Section 7 hereof, then not more than three months' Rent; or (d) liable to Tenant for any Security Deposit not actually received by such successor in interest to the extent any portion or all of such Security Deposit has not already been forfeited by, or refunded to, Tenant. Landlord shall be liable to Tenant for all or any portion of the Security Deposit not forfeited by, or refunded to Tenant, until and unless Landlord transfers such Security Deposit to the successor-in-interest. Tenant covenants and agrees to execute (and acknowledge if required by Landlord, any lender or ground lessor) and deliver, within five (5) days of a demand or request by Landlord and in the form reasonably requested by Landlord, ground lessor, mortgagee or beneficiary, any additional documents evidencing the priority or subordination of this Lease with respect to any such ground leases or underlying leases or the lien of any such mortgage or deed of trust.

18. RIGHT OF ENTRY.

Landlord and its agents shall have the right to enter the Premises at all reasonable times, upon reasonable prior notice, for purposes of inspection, exhibition, posting of notices, investigation, replacements, repair, maintenance and alteration. It is further agreed that Landlord shall have the right to use any and all means Landlord deems necessary to enter the Premises in an emergency. Landlord shall also have the right to place "for sale" signs on the outside of the Building. Tenant hereby waives any Claim from damages or for any injury or inconvenience to or interference with Tenant's business, or any other loss occasioned thereby except for any Claim for any of the foregoing arising out of the sole active gross negligence or willful misconduct of Landlord or its authorized representatives. Notwithstanding the foregoing, Tenant may designate in writing certain secured areas within the Premises which Landlord will not enter except in an emergency situation or upon no less that twenty-four hours prior written notice for the purpose of inspection.

19. ESTOPPEL CERTIFICATE.

Tenant shall execute (and acknowledge if required by any lender or ground lessor) and deliver to Landlord, within ten (10) days after Landlord provides such to Tenant, a statement in writing certifying that this Lease is unmodified and in full force and effect (or, if modified, stating the nature of such modification), the date to which the Rent and other charges are paid in advance, if any, acknowledging that there are not, to Tenant's knowledge, any uncured defaults on the part of Landlord hereunder or specifying such defaults as are claimed, and such other matters as Landlord may reasonably require. Any such statement may be conclusively relied upon by Landlord and any prospective purchaser or encumbrancer of the Building or other portions of the Property. Tenant's failure to deliver such statement within such time shall be conclusive upon the Tenant that (a) this Lease is in full force and effect, without modification except as may be represented by Landlord; (b) there are no uncured defaults in Landlord's performance; and (c) not more than one month's Rent has been paid in advance, except in those instances when Tenant pays Rent quarterly in advance pursuant to Section 7 hereof, then not more than three months' Rent has been paid in advance.

20. TENANT'S DEFAULT.

The occurrence of any one or more of the following events shall, at Landlord's option, constitute a material default by Tenant of the provisions of this Lease:

20.1 The abandonment of the Premises by Tenant or the vacation of the Premises by Tenant which would cause any insurance policy to be invalidated or otherwise lapse;

20.2 The occurrence of two (2) or more non-material defaults during any one calendar year, or four (4) or more material defaults during the Term;

20.3 The failure by Tenant to make any payment of Rent, Additional Rent or any other payment required hereunder within five (5) days for written notice (such notice being in lieu of any notice required by California Code of Civil Procedure Section 1161). Landlord may, by written notice to Tenant, require Tenant to pay any late Rent with a cashier's check or by wire transfer;

20.4 The failure by Tenant to observe, perform or comply with any of the conditions, covenants or provisions of this Lease (except failure to make any payment of Rent and/or Additional Rent) and such failure is not cured within (i) thirty (30) days from the date that Landlord delivers written notice of such failure to Tenant for all failures other than with respect to the timely delivery by Tenant of a subordination, non-disturbance and attornment agreement (an "SNDA"), a counterpart of a fully executed Transfer document and a consent thereto (collectively, the "Transfer Documents"), an estoppel certificate or insurance certificates, and (ii) the time period, if any, specified in the applicable sections of this Lease with respect to subordination, assignment and sublease, estoppel certificates and insurance. However, Tenant shall not be in default of its obligations hereunder if such failure (other than any failure of Tenant to timely deliver an SNDA, the Transfer Documents, an estoppel certificate or insurance certificates, for which no additional cure period shall be given to Tenant) cannot reasonably be cured within such thirty (30) or ten (10) day period, as applicable, and Tenant promptly

commences, and thereafter diligently proceeds with same to completion, all actions necessary to cure such failure as soon as is reasonably possible, but in no event shall the completion of such cure be later than sixty (60) days after the date on which Landlord delivers to Tenant written notice of such failure, unless Landlord, acting reasonably and in good faith, otherwise expressly agrees in writing to a longer period of time based upon the circumstances relating to such failure as well as the nature of the failure and the nature of the actions necessary to cure such failure; or

20.5 The making of a general assignment by Tenant for the benefit of creditors, the filing of a voluntary petition by Tenant or the filing of an involuntary petition by any of Tenant's creditors seeking the rehabilitation, liquidation, or reorganization of Tenant under any law relating to bankruptcy, insolvency or other relief of debtors and, in the case of an involuntary action, the failure to remove or discharge the same within sixty (60) days of such filing, the appointment of a receiver or other custodian to take possession of substantially all of Tenant's assets or this leasehold, Tenant's insolvency or inability to pay Tenant's debts or failure generally to pay Tenant's debts when due, any court entering a decree or order directing the winding up or liquidation of Tenant or of substantially all of Tenant's assets, Tenant taking any action toward the dissolution or winding up of Tenant's affairs, the cessation or suspension of Tenant's use of the Premises, or the attachment, execution or other judicial seizure of substantially all of Tenant's assets or this leasehold.

21. REMEDIES FOR TENANT'S DEFAULT.

21.1 Landlord's Rights: In the event of Tenant's material default under this Lease, and in addition to all other rights and remedies available at law or in equity, Landlord may terminate Tenant's right to possession of the Premises by any lawful means in which case upon delivery of written notice by Landlord this Lease shall terminate on the date specified by Landlord in such notice and Tenant shall immediately surrender possession of the Premises to Landlord. In addition, the Landlord shall have the immediate right of re-entry whether or not this Lease is terminated, and if this right of re-entry is exercised following abandonment of the Premises by Tenant, Landlord may consider any of Tenant's Property left on the Premises to also have been abandoned. No re-entry or taking possession of the Premises by Landlord pursuant to this Section 21.1 shall be construed as an election to terminate this Lease unless a written notice of such intention is given to Tenant. If Landlord relets the Premises or any portion thereof, Tenant shall be liable immediately to Landlord for all costs Landlord incurs in reletting the Premises or any part thereof, including, without limitation, unamortized broker's commissions, reasonable expenses of cleaning, redecorating, and further improving the Premises and other similar costs (collectively, the "Reletting Costs"). Any and all of the Reletting Costs shall be fully chargeable to Tenant and shall not be prorated or otherwise amortized in relation to any new lease for the Premises or any portion thereof. Reletting may be for a period shorter or longer than the remaining term of this Lease. In no event shall Tenant be entitled to any excess rent received by Landlord. No act by Landlord other than giving written notice to Tenant shall terminate this Lease. Acts of maintenance, efforts to relet the Premises or the appointment of a receiver on Landlord's initiative to protect Landlord's interest under this Lease shall not constitute a termination of Tenant's right to possession. So long as this Lease is not terminated, Landlord shall have the right to remedy any default of Tenant, to maintain or improve the Premises, to cause a receiver to be appointed to administer the Premises and new or existing subleases and to add to the Rent payable hereunder all of Landlord's reasonable costs in so doing, with interest at the maximum rate permitted by law from the date of such expenditure.

21.2 Damages Recoverable: If Tenant breaches this Lease and abandons the Premises before the end of the Term, or if Tenant's right to possession is terminated by Landlord because of a breach or default under this Lease, then in either such case, Landlord may recover from Tenant all damages suffered by Landlord as a result of Tenant's failure to perform its obligations hereunder, including without limitation, the unamortized cost of any Tenant Improvements constructed by or on behalf of Tenant pursuant to Exhibit C hereto to the extent Landlord has paid for such improvements, the unamortized portion of any broker's or leasing agent's commission incurred with respect to the leasing of the Premises to Tenant for the balance of the Term of the Lease remaining after the date on which Tenant is in default of its obligations hereunder, and all Reletting Costs, and the worth at the time of the award (computed in accordance with paragraph (3) of Subdivision (a) of Section 1951.2 of the California Civil Code) of the amount by which the Rent then unpaid hereunder for the balance of the Lease Term exceeds the amount of such loss of Rent for the same period which Tenant proves could be reasonably avoided by Landlord and in such case, Landlord prior to the award, may relet the Premises for the purpose of mitigating damages suffered by Landlord because of Tenant's failure to perform its obligations hereunder; provided, however, that even though Tenant has abandoned the Premises following such breach, this Lease shall nevertheless continue in full force and effect for as long as Landlord does not terminate Tenant's right of possession, and until such termination, Landlord shall have the remedy described in Section 1951.4 of the California Civil Code (Landlord may continue this Lease in effect after Tenant's breach and abandonment and recover Rent as it becomes due, if Tenant has the right to sublet or assign, subject only to reasonable limitations) and may enforce all its rights and remedies under this Lease, including the right to recover the Rent from Tenant as it becomes due hereunder. The "worth at the time of the award" within the meaning of Subparagraphs (a)(1) and (a)(2) of Section 1951.2 of the California Civil Code shall be computed by allowing interest at the rate of ten percent (10%) per annum. Tenant waives redemption or relief from forfeiture under California Code of Civil Procedure Sections 1174 and 1179 (or any successor or substitute statute), or under any other present or future law, in the event Tenant is evicted or Landlord takes possession of the Premises by reason of any default of Tenant hereunder. Tenant hereby waives for Tenant and for all those claiming under Tenant all rights now or hereafter existing to redeem by order or judgment of any court or by any legal process or writ, Tenant's right of occupancy of the Premises after any termination of this Lease.

21.3 Rights and Remedies Cumulative: The foregoing rights and remedies of Landlord are not exclusive; they are cumulative in addition to any rights and remedies now or hereafter existing at law, in equity by statute or otherwise, or to any equitable remedies Landlord may have, and to any remedies Landlord may have under bankruptcy laws or laws affecting creditors' rights generally. In addition to all remedies set forth above, if Tenant materially defaults under this Lease, all options granted to Tenant hereunder shall automatically terminate, unless otherwise expressly agreed to in writing by Landlord.

22. HOLDING OVER.

If Tenant holds over after the expiration of the Lease Term hereof, with or without the express or implied consent of Landlord, such tenancy shall be from month-to-month only, and shall not constitute a renewal hereof or an extension for any further term, and in such case Base Rent shall be payable at a monthly rate equal to one hundred fifty percent (150%) of the Base Rent applicable during the last rental period of the Lease Term under this Lease. Such month-to- month tenancy shall be subject to every other term, covenant and agreement contained herein. Landlord hereby expressly reserves the right to require Tenant to surrender possession of the Premises to Landlord as provided in this Lease upon the expiration or other termination of this Lease. The provisions of this Section 22 shall not be deemed to limit or constitute a waiver of any other rights or remedies of Landlord provided herein or at law. If Tenant fails to surrender the Premises upon the termination or expiration of this Lease, and Landlord has provided Tenant with notice of a pending tenancy, then in addition to any other liabilities to Landlord accruing therefrom, Tenant shall protect, defend, indemnify, and hold Landlord harmless from all Claims resulting from such failure.

23. LANDLORD'S DEFAULT.

Landlord shall not be considered in default of this Lease unless Landlord fails within a reasonable time to perform an obligation required to be performed by Landlord hereunder. For purposes hereof, a reasonable time shall not be less than thirty (30) days after receipt by Landlord of written notice specifying the nature of the obligation Landlord has not performed; provided, however, that if the nature of Landlord's obligation is such that more than thirty (30) days, after receipt of written notice, is reasonably necessary for its performance, then Landlord shall not be in default of this Lease if performance of such obligation is commenced within such thirty (30) day period and thereafter diligently pursued to completion.

24. ARBITRATION.

The parties agree that any and all non-monetary disputes, claims or controversies arising out of or relating to this Lease that are not resolved by mutual agreement shall be submitted to mediation before JAMS, Inc. or its successor ("JAMS"). The parties agree to mediate any claims or disputes for a period of fifteen (15) days from the date that the matter is submitted for mediation. If the parties are unable to reach an agreement through mediation, then either party may submit the matter to JAMS for final, binding arbitration, pursuant to the United States Arbitration Act, 9 U.S.C. Sec. 1 et seq. Either party may commence the mediation/arbitration process called for in this Lease by filling a written demand for mediation with JAMS, with a copy to the other party. The arbitration will be conducted in accordance with the provisions of JAMS Streamline Arbitration Rules and Procedures in effect at the time of filing the demand for arbitration. In the event of any conflict between the United States Arbitration Act and the JAMS Streamline Arbitration Rules, the JAMS rules shall prevail. The parties will cooperate with JAMS and with one another in selecting a mediator and an arbitrator from JAMS's panel of neutrals, and in scheduling the mediation and arbitration proceedings. The mediator and the arbitrator shall not be the same neutral. The parties covenant that they will participate in the mediation and arbitration in good faith. The costs of the mediation will be borne equally by both parties; the costs of the arbitration shall be borne by the losing party. The provisions of this Section may be enforced by any court of competent jurisdiction.

25. TRANSFER OF LANDLORD'S INTEREST.

If there is any sale or other transfer of the Premises or any other portion of the Property by Landlord or any of Landlord's interest therein, Landlord will automatically be entirely released from all liability under this Lease upon transfer of Security Deposit to the new transferee and Tenant agrees to look solely to such transferee for the performance of Landlord's obligations hereunder after the date of such transfer. A ground lease or similar long-term lease by Landlord of the entire Building, of which the Premises are a part, shall be deemed a sale within the meaning of this Section 25. Tenant agrees to attorn to such new owner provided such new owner does not disturb Tenant's use, occupancy, or quiet enjoyment of the Premises so long as Tenant is not in material default of any of the provisions of this Lease.

26. WAIVER.

No delay or omission in the exercise of any right or remedy of either party on any default by the other party shall impair such a right or remedy or be construed as a waiver. The subsequent acceptance of Rent by Landlord after default by Tenant of this Lease will not be deemed a waiver of such default, other than a waiver of timely payment for the particular Rent payment involved, and does not prevent Landlord from maintaining an unlawful detainer or other action based on such breach. No payment by Tenant or receipt by Landlord of a lesser amount than the monthly Rent and other sums due hereunder shall be deemed to be other than on account of the earliest Rent or other sums due, nor shall any endorsement or statement on any check or accompanying any check or payment be deemed an accord and satisfaction; and Landlord may accept such check or payment without prejudice to Landlord's right to recover the balance of such Rent or other sum or pursue any other remedy provided in this Lease. No failure, partial exercise, or delay on the part of the Landlord in exercising any right, power or privilege hereunder shall operate as a waiver thereof.

27. CASUALTY DAMAGE.

27.1 Casualty: If the Premises or any part thereof [excluding any of Tenant's Property, any Tenant Improvements and any Alterations installed by or for the benefit of Tenant (collectively, the "Tenant's FF&E")] shall be damaged or destroyed by fire or other casualty, Tenant shall give immediate written notice thereof to Landlord. Within sixty (60) days after receipt by Landlord of such notice, Landlord shall notify Tenant, in writing, whether the necessary repairs can reasonably be made, as reasonably determined by Landlord: (a) within one hundred eighty (180) days; or (b) in more than one hundred eighty (180) days, from the date of such notice.

27.1.1 Minor Insured Damage: If the Premises (other than the Tenant's FF&E) are damaged only to such extent that repairs, rebuilding and/or restoration can be reasonably completed one hundred eighty (180) days, this Lease shall not terminate and, provided that insurance proceeds are available and paid to Landlord to fully repair the damage and/or Tenant otherwise voluntarily contributes any shortfall thereof to Landlord, Landlord shall repair the

Premises to substantially the same condition that existed prior to the occurrence of such casualty, except Landlord shall not be required to rebuild, repair, or replace any of Tenant's FF&E. The Rent payable hereunder shall be abated proportionately from the date and to the extent Tenant vacates the affected portions of the Premises until any and all repairs required herein to be made by Landlord are substantially completed but such abatement shall only be to the extent (i) of the portion of the Premises which is actually rendered unusable and unfit for occupancy and only during the time Tenant is not actually using same, and (ii) Landlord receives rental abatement insurance proceeds therefore.

27.1.2 Major Insured Damage: If the Premises (other than the Tenant's FF&E) are damaged to such extent that repairs, rebuilding and/or restoration cannot be reasonably completed, as reasonably determined by Landlord, within two hundred seventy (270) days, then either Landlord or Tenant may terminate this Lease by giving written notice within twenty (20) days after notice from Landlord regarding the time period of repair. If either party notifies the other of its intention to so terminate the Lease, then this Lease will terminate and the Rent will be abated from the date of the occurrence of such damage, provided Tenant diligently proceeds to and expeditiously vacates the Premises (but, in all events Tenant must vacate and surrender the Premises to Landlord by no later than ten (10) business days thereafter or there shall not be any abatement of Rent until Tenant so vacates the Premises). If neither party elects to terminate this Lease, Landlord shall promptly commence and diligently prosecute to completion the repairs to the Premises, provided insurance proceeds are available and paid to Landlord to fully repair the damage or Tenant voluntarily contributes any shortfall thereof to Landlord (except that Landlord shall not be required to rebuild, repair, or replace any of Tenant's FF&E). During the time when Landlord is prosecuting such repairs to substantial completion, the Rent payable hereunder shall be abated proportionately from the date and to the extent Tenant actually vacates the affected portions of the Premises until any and all repairs required herein to be made by Landlord are substantially completed but such abatement shall only be to the extent (i) of the portion of the Premises which is actually rendered unusable and unfit for occupancy and only during the time Tenant is not actually using same, and (ii) Landlord receives rental abatement insurance proceeds therefore.

27.1.3 Damage Near End of Term: Notwithstanding anything to the contrary contained in this Lease except for the provisions of Section 27.3 below, if the Premises are substantially damaged or destroyed during the last year of then applicable term of this Lease and, at the time of the damage or casualty, no notice regarding the exercise of any Option has been delivered by Tenant, then either Landlord or Tenant may, at their option, cancel and terminate this Lease by giving written notice to the other party of its election to do so within thirty (30) days after receipt by Landlord of notice from Tenant of the occurrence of such casualty. If either party so elects to terminate this Lease, all rights of Tenant hereunder shall cease and terminate ten (10) days after Tenant's receipt or delivery of such notice, as applicable, and Tenant shall immediately vacate the Premises and surrender possession thereof to Landlord.

27.2 Uninsured Casualty: If any portion of the Premises is damaged and is not fully covered by the aggregate of insurance proceeds received by Landlord and any applicable deductible, and Tenant does not voluntarily contribute any shortfall thereof to Landlord, or if the holder of any indebtedness secured by the Premises requires that the insurance proceeds be applied to such indebtedness, then Landlord shall have the right to terminate this Lease by delivering written notice of termination to Tenant within thirty (30) days after the date of notice to Tenant of any such event, whereupon all rights and obligations of Tenant shall cease and terminate hereunder, except for those obligations expressly provided for in this Lease to survive such termination of the Lease.

27.3 Tenant's Fault and Lender's Rights: Notwithstanding anything to the contrary contained herein, if the Premises (other than Tenant's FF&E) or any other portion of the Building be damaged by fire or other casualty conclusively determined to have been resulting from the intentional or sole gross negligent acts or omissions of Tenant or any of Tenant's Representatives, (i) the Rent shall not be diminished during the repair of such damage, (ii) Tenant shall not have any right to terminate this Lease due to the occurrence of such casualty or damage, and (iii) Tenant shall be liable to Landlord for the cost and expense of the repair and restoration of all or any portion of the Building caused thereby (including, without limitation, any deductible) to the extent such cost and expense is not covered by insurance proceeds.

27.4 Tenant's Waiver: So long as Landlord is using commercially reasonable efforts to complete the repairs and renovations needed as a result of a casualty event, Landlord shall not be liable for any inconvenience or annoyance to Tenant, injury to the business of Tenant, loss of use of any part of the Premises by Tenant or loss of Tenant's Property, resulting in any way from such damage, destruction or the repair thereof, except that, Landlord shall allow Tenant a fair diminution of Rent during the time and to the extent the Premises are actually unusable and unfit for occupancy and Tenant is not using or otherwise occupying same as specifically provided above in this Section 27. With respect to any damage or destruction which Landlord is obligated to repair or may elect to repair, Tenant hereby waives all rights to terminate this Lease or offset any amounts against Rent pursuant to rights accorded Tenant by any law currently existing or hereafter enacted, including but not limited to, all rights pursuant to the provisions of Sections 1932(2.), 1933(4.), 1941 and 1942 of the California Civil Code, as the same may be amended or supplemented from time to time.

28. CONDEMNATION.

If fifty percent (50%) or more of the Premises is condemned by eminent domain, inversely condemned or sold in lieu of condemnation for any public or quasi-public use or purpose ("Condemned"), then either Tenant or Landlord may terminate this Lease by written notice as of the date when physical possession of the Premises is taken and title vests in such condemning authority, and Rent shall be adjusted to the date of termination. Tenant shall not because of such condemnation assert any claim against Landlord or the condemning authority for any compensation because of such condemnation, and Landlord shall be entitled to receive the entire amount of any award without deduction for any estate of interest or other interest of Tenant; provided, however, the foregoing provisions shall not preclude Tenant, at Tenant's sole cost and expense, from obtaining any separate award to Tenant for loss of or damage to Tenant's Property or for damages for cessation or interruption of Tenant's business provided such award is separate from Landlord's award and provided further such separate award does not diminish nor otherwise impair the award otherwise payable to Landlord. In addition to the foregoing, Tenant shall be entitled to seek compensation for the relocation costs recoverable by Tenant pursuant to the provisions of California Government Code Section 7262. If neither party elects to terminate this Lease, Landlord shall, if necessary, promptly proceed to restore the Premises or the

Building, as applicable, to substantially its same condition prior to such partial condemnation, allowing for the reasonable effects of such partial condemnation, and a proportionate allowance shall be made to Tenant, as solely determined by Landlord, for the Rent corresponding to the time during that, and to the part of the Premises of that, Tenant is deprived on account of the partial condemnation and restoration. Landlord is not required to spend funds for restoration in excess of the amount received by Landlord as compensation awarded.

29. ENVIRONMENTAL MATTERS/HAZARDOUS MATERIALS.

Tenant must strictly comply with all statutes, laws, ordinances, rules, regulations, and precautions now or hereafter mandated or advised by any federal, state, local or other governmental agency (collectively, "Environmental Laws") with respect to the use, generation, storage, or disposal of hazardous, toxic, or radioactive materials (collectively, "Hazardous Materials"). As herein used, Hazardous Materials shall include, but not be limited to, those materials identified in Sections 66680 through 66685 of Title 22 of the California Code of Regulations, Division 4, Chapter 30, as amended from time to time, and those substances defined as "hazardous substances," "hazardous materials, "hazardous wastes," "chemicals known to cause cancer or reproductive toxicity," "radioactive materials," or other similar designations in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C. Section 9601 et seq., the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq., the Hazardous Materials Transportation Act, 49 U.S.C. Section 1801 et seq., 33 U.S.C. Section 1251 et seq., 42 U.S.C. Section 300(f) et seq., 42 U.S.C. 7401 et seq., California Health and Safety Code Section 25249.5 et seq., California Water Code Section 13000 et seq., California Health and Safety Code Section 39000 et seq. and any other Environmental Laws now or hereafter in effect. Tenant shall not cause, or allow anyone else to cause, any Hazardous Materials to be used, generated, stored, or disposed of on or about the Premises, the Building, or the Property other than reasonable quantities of office and cleaning supplies in their retail containers. Tenant shall defend (with counsel approved by Landlord), indemnify and hold Landlord, its trustees, employees and agents, any entity having a security interest in the Premises, the Building, or the Property, and its and their employees and agents (collectively, "Indemnitees") harmless from and against, and shall reimburse the Indemnitees for, all liabilities, claims, costs, damages, and depreciation of property value, including all foreseeable and unforeseeable consequential damages, directly or indirectly arising out of the use, generation, storage, or disposal of Hazardous Materials by Tenant or any person claiming under Tenant, including, without limitation, the cost of any required or necessary investigation, monitoring, repair, cleanup, or detoxification and the preparation of any closure or other required plans, whether such action is required or necessary prior to or following the termination of this Lease, as well as penalties, fines and claims for contribution to the full extent that such action is attributable, directly or indirectly, to the use, generation, storage, or disposal of Hazardous Materials by Tenant or any person claiming under Tenant. Neither the consent by Landlord to the use, generation, storage, or disposal of Hazardous Materials nor the strict compliance by Tenant with all statutes, laws, ordinances, rules, regulations, and precautions pertaining to Hazardous Materials shall excuse Tenant from Tenant's obligation of indemnification set forth above. Tenant's obligations under this Section 29 shall survive the expiration or termination of this Lease.

30. FINANCIAL STATEMENTS.

Tenant and any permitted Transferee, within twenty (20) days after Landlord's request therefore, but not more often than once annually so long as Tenant is not in material default of this Lease, shall deliver to Landlord the then current audited financial statements of Tenant (including interim periods following the end of the last fiscal year for which annual statements are available. If audited financial statements have not been prepared, Tenant and any permitted Transferee shall provide Landlord with certified, unaudited financial statements and such other information, the type and form of which are acceptable to Landlord in Landlord's reasonable discretion, which reflects the financial condition of Tenant and any permitted Transferee. Landlord shall maintain the confidentiality of the financial statements provided by Tenant hereunder.

31. SIGNS.

All signs and graphics of every kind visible in or from public view or corridors or the exterior of the Premises shall be subject to Landlord's prior written approval and shall be subject to and in compliance with all applicable Laws and the Rules and Regulations. Tenant shall have the right to install a sign on the ground floor entry door, subject to the requirements of this Section. Tenant shall also have the right to listing on the directory board in the lobby area. The lobby directory will be maintained at Landlord's sole cost and expense. In addition, Tenant, at its sole cost and expense, shall have the right to install "eyebrow" signs on the Building that are facing the street, provided that Landlord shall have the right to reasonably approve the signage and Tenant must obtain all applicable approvals and permits for the City of Emeryville.

32. COMMUNICATIONS AND COMPUTER LINES.

Tenant may install, maintain, replace or remove any communications or computer wires and cables (collectively, the "Lines") to serve the Premises, provided that (i) Tenant has obtained Landlord's prior written consent, in Landlord's reasonable discretion; (ii) Tenant uses an experienced and qualified contractor, approved in writing by Landlord, in Landlord's reasonable discretion; (iii) Landlord complies with all other provisions of Sections 10 and 11 of this Lease; (iv) the Lines must be appropriately insulated to prevent excess electromagnetic fields or radiation and shall be surrounded by a protective conduit; and (v) Tenant shall pay all costs in connection therewith. As a condition precedent to the installation of new Lines, Landlord may require that Tenant remove the Lines upon the expiration of the Lease.

33. MORTGAGE OF TENANT'S LEASEHOLD INTEREST.

Notwithstanding any provision in this Lease to the contrary, Tenant may not, without the prior consent of Landlord, which consent may be withheld in its sole and absolute discretion, mortgage, pledge, hypothecate or encumber the leasehold interest granted under this Lease, whether voluntary of by operation of law. Any mortgage effected without the approval of Landlord shall constitute a material default under the Lease. Landlord's approval will not be construed to require Landlord to provide any leasehold mortgagee with any notice of default or otherwise under this Lease.

34. MORTGAGEE PROTECTION.

Upon any default on the part of Landlord, Tenant will give written Notice by registered or certified mail to any beneficiary of a deed of trust or mortgagee of a mortgage covering the Premises who has provided Tenant with notice of their interest and an address for receiving Notice, and shall offer such beneficiary or mortgagee a reasonable opportunity to cure the default, including time to obtain possession of the Premises by power of sale or a judicial foreclosure, if such should prove necessary to effect a cure. If such default cannot be cured within such time period, then such additional time as may be necessary will be given to such beneficiary or mortgagee to effect such cure so long as such beneficiary or mortgagee has commenced the cure within the original time period and thereafter diligently pursues such cure to completion, in which event this Lease shall not be terminated while such cure is being diligently pursued. Tenant agrees that each lender to whom this Lease has been assigned by Landlord is an express third party beneficiary hereof. Tenant shall not make any prepayment of Rent more than one (1) month in advance without the prior written consent of each such lender, except if Tenant is required to make quarterly payments of Rent in advance pursuant to the provisions of Section 7 above. Tenant waives the collection of any deposit from such lender(s) or any purchaser at a foreclosure sale of such lender(s)' deed of trust unless the lender(s) or such purchaser shall have actually received and not refunded the deposit. Tenant agrees to make all payments under this Lease to the lender with the most senior encumbrance upon receiving a direction, in writing, to pay said amounts to such lender. Tenant shall comply with such written direction to pay without determining whether an event of default exists under such lender's loan to Landlord. If, in connection with obtaining financing for the Premises or any other portion of the Property, Landlord's lender shall request reasonable modification(s) to this Lease as a condition to such financing, Tenant shall not unreasonably withhold, delay or defer its consent thereto, provided such modifications do not materially and adversely affect Tenant's rights hereunder, the Rent, Term or the use, occupancy or quiet enjoyment of Tenant hereunder.

35. WARRANTIES.

Tenant hereby warrants and represents to Landlord, for the express benefit of Landlord, that Tenant has undertaken a complete and independent evaluation of the risks inherent in the execution of this Lease and the operation of the Premises for the use permitted hereby, and that, based upon said independent evaluation, Tenant has elected to enter into this Lease and hereby assumes all risks with respect thereto. Tenant hereby further warrants and represents to Landlord, for the express benefit of Landlord, that in entering into this Lease, Tenant has not relied upon any statement, fact, promise or representation (whether express or implied, written or oral) not specifically set forth herein in writing and that any statement, fact, promise or representation (whether express or implied, written or oral) made at any time to Tenant, which is not expressly incorporated herein in writing, is hereby waived by Tenant.

36. BROKERAGE COMMISSION.

Landlord and Tenant each represents and warrants for the benefit of the other that it has had no dealings with any real estate broker, agent or finder in connection with the Premises and/or the negotiation of this Lease, except for the Broker(s) specified in the Basic Lease Information, and that it knows of no other real estate broker, agent or finder who is or might be entitled to a real estate brokerage commission or finder's fee in connection with this Lease or otherwise based upon contacts between the claimant and Tenant. Each party shall indemnify and hold harmless the other from and against any and all liabilities or expenses arising out of claims made for a fee or commission by any real estate broker, agent or finder in connection with the Premises and this Lease other than Broker(s), if any, resulting from the actions of the indemnifying party. Unless expressly agreed to in writing by Landlord and Broker(s), no real estate brokerage commission or finder's fee shall be owed to, or otherwise payable to, the Broker(s) for any renewals or other extensions of the initial Term of this Lease or for any additional space leased by Tenant other than the Premises as same exists as of the Lease Date. Tenant further represents and warrants to Landlord that Tenant will not receive (i) any portion of any brokerage commission or finder's fee payable to the Broker(s) in connection with this Lease or (ii) any other form of compensation or incentive from the Broker(s) with respect to this Lease.

37. QUIET ENJOYMENT.

Landlord covenants with Tenant, upon the paying of Rent and observing and keeping the covenants, agreements and conditions of this Lease on its part to be kept, and during the periods that Tenant is not otherwise in default of any of the terms or provisions of this Lease, and subject to the rights of any of Landlord's lenders, (i) that Tenant shall and may peaceably and quietly have, hold, occupy and enjoy the Premises during the Term of this Lease, and (ii) neither Landlord, nor any successor or assign of Landlord, shall disturb Tenant's occupancy or enjoyment of the Premises. The foregoing covenant is in lieu of any other covenant express or implied.

38. GENERAL PROVISIONS.

38.1 Time. Time is of the essence in this Lease and with respect to each and all of its provisions in which performance is a factor.

38.2 Successors and Assigns. The covenants and conditions herein contained, subject to the provisions as to assignment, apply to and bind the heirs, successors, executors, administrators and assigns of the parties hereto.

38.3 Recordation. Tenant shall not record this Lease or a short form memorandum hereof.

38.4 Landlord Exculpation. The liability of Landlord to Tenant for any default by Landlord under the terms of this Lease, except for a failure of Landlord to transfer the Security Deposit to any successor to Landlord, shall be limited to the actual interest of Landlord and its present or future partners or members in the Building, and Tenant agrees to look solely to Landlord's interest in the Building for satisfaction of any liability and shall not look to other assets of Landlord nor seek any recourse against the assets of the individual partners, members, directors, officers, shareholders, agents or employees of Landlord, including without limitation, any property management company of Landlord (collectively, the "Landlord Parties"). It is the parties' intention that Landlord and the Landlord Parties shall not in any event or circumstance be personally liable, in any manner whatsoever, for any judgment or deficiency hereunder or with respect to this Lease. The liability of Landlord under this Lease is limited to its actual period of ownership of title to the Building.

38.5 Severability and Governing Law. Any provisions of this Lease which shall prove to be invalid, void, or illegal shall in no way affect, impair, or invalidate any other provisions hereof and such other provision shall remain in full force and effect. This Lease shall be governed by, and construed in accordance with, the laws of the State of California.

38.6 Attorneys' Fees. In the event any dispute between the parties arises, regardless of whether such disputes results in litigation or other proceeding, the prevailing party shall be reimbursed by the party not prevailing for all reasonable costs and expenses, including, without limitation, reasonable attorneys' and experts' fees and costs incurred by the prevailing party in connection with such litigation or other proceeding, and any appeal thereof. Such costs, expenses and fees shall be included in and made a part of the judgment recovered by the prevailing party, if any. The prevailing party is also entitled to any and all costs incurred in the collection of any judgment.

38.7 Entire Agreement. It is understood and acknowledged that there are no oral agreements between the parties hereto affecting this Lease and this Lease supersedes and cancels any and all previous negotiations, arrangements, brochures, agreements and understandings, if any, between the parties hereto or displayed by Landlord to Tenant with respect to the subject matter thereof, and none thereof shall be used to interpret or construe this Lease. This Lease and any side letter or separate agreement executed by Landlord and Tenant in connection with this Lease and dated of even date herewith contain all of the terms, covenants, conditions, warranties and agreements of the parties relating in any manner to the rental, use and occupancy of the Premises, shall be considered to be the only agreement between the parties hereto and their representatives and agents, and none of the terms, covenants, conditions or provisions of this Lease can be modified, deleted or added to except in writing signed by the parties hereto. All negotiations and oral agreements acceptable to both parties have been merged into and are included herein. There are no other representations or warranties between the parties, and all reliance with respect to representations is based totally upon the representations and agreements contained in this Lease. The parties acknowledge that (i) each party and/or its counsel have reviewed and revised this Lease, and (ii) no rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall be employed in the interpretation or enforcement of this Lease or any amendments or exhibits to this Lease or any document executed and delivered by either party in connection with this Lease.

38.8 Notices. All notices, demands, consents, requests or other communications required to or permitted to be given pursuant to this Lease (the "Notices") shall be in writing, shall be given only in accordance with the provisions of this Section, shall be addressed to the parties in the manner set forth below, and shall be conclusively deemed to have been properly delivered: (a) upon receipt when hand delivered during normal business hours; (b) upon the day of delivery if the notice has been deposited in a authorized receptacle of the United States Postal Service as first-class, registered or certified mail, postage prepaid, with a return receipt requested; or (c) one (1) business day after the notice has been deposited with either FedEx or United Parcel Service to be delivered by overnight delivery. All notices shall be delivered (i) to Tenant at the Tenant's Address set forth in the Basic Lease Information, or to such other place as Tenant may from time to time designate in a Notice to Landlord; or (ii) to Landlord at Landlord's Address set forth in the Basic Lease Information, or to such other firm or to such other place as Landlord may from time to time designate in a Notice to Tenant.

38.9 Joint and Several; Covenants and Conditions. If Tenant consists of more than one person or entity, the obligations of all such persons or entities shall be joint and several. Each provision to be performed by Tenant hereunder shall be deemed to be both a covenant and a condition.

38.10 Authority. If either Tenant or Landlord is a corporation, trust or partnership, each individual executing the Lease on behalf of Tenant or Landlord, as applicable, hereby represents and warrants that Tenant or Landlord is a duly formed and validly existing entity qualifies to do business in California and that Tenant or Landlord has the full right and authority to execute and deliver this Lease and that each person signing on behalf of Tenant or Landlord is authorized to do so. In such event, Tenant shall, within ten (10) business days after execution of this Lease, deliver to Landlord satisfactory evidence of such authority and, if a corporation, upon demand by Landlord, also deliver to Landlord satisfactory evidence of (i) good standing in Tenant's state of incorporation and (ii) qualification to do business in California.

38.11 Confidentiality. Tenant acknowledges that the content of this Lease and any related documents are confidential information. Landlord acknowledges that the business plans and financial information of Tenant is confidential information. Each of the parties agrees it shall keep and maintain such confidential information strictly confidential and shall not disclose such confidential information to any person or entity other than the other party's financial, legal and space planning consultants. Tenant shall notify all parties that have knowledge of the terms of this Lease, including all relevant employees, in writing as to the existence of this confidentiality covenant.

38.12 Landlord Renovations. Tenant acknowledges that Landlord may from time to time, at Landlord's sole option, renovate, improve, develop, alter, or modify (collectively, the "Renovations") portions of the Building, Premises, and the Property, including without limitation, the systems, equipment, roof, the Building and structural portions of the same, which Renovations may include, without limitation, (i) modifying any portion of the Building, including the Premises to comply applicable Laws, including regulations relating to the physically disabled, seismic conditions, and safety and security; or (ii) creating additional parking areas or occupied space on the Property. The Renovations may also include any improvement or renovation done to increase the safety or security of the Building in excess of the requirements required by the Laws, as Landlord determines to be necessary in its sole and absolute discretion. In connection with the Renovations, Landlord may, among other things, erect scaffolding or other necessary structures in the Building, limit or eliminate access to portions of the Building, or perform work in the Building, which work may create noise, dust, or leave debris in the Building. Similarly, other properties in the vicinity of the Building may undergo substantial construction or renovation during the Term, which may cause substantial disturbance to traffic and parking, and may cause dust, noise and vibration which may affect the Premises. Landlord shall use commercially reasonable efforts to minimize disruption to Tenant's business. Tenant hereby agrees that such Renovations and Landlord's actions in connection with such Renovations shall in no way constitute a constructive eviction of Tenant

nor entitle Tenant to any abatement of Rent. Landlord shall have no responsibility, or for any reason be liable to Tenant, for any direct or indirect injury to or interference with Tenant's business arising from the Renovations, nor shall Tenant be entitled to any compensation or damages from Landlord for loss of the use of the whole or any part of the Premises or of Tenant's Property, Alterations or improvements resulting from the Renovations or Landlord's actions in connection with such Renovations, or for any inconvenience or annoyance occasioned by such Renovations or Landlord's actions in connection with such Renovations.

38.13 Joint and Several. The obligations of Tenant shall be joint and several between all entities names as "Tenant" hereunder.

38.14 Submission of Lease. Submission of this instrument for examination or signature by Tenant does not constitute a reservation of or an option for lease, and it is not effective as a lease or otherwise until execution and delivery by both Landlord and Tenant.

38.15 Accessibility. As of the Effective Date, there has been no inspection of the Property by a Certified Access Specialist ("CASp"), as referenced in Section 1938 of the California Civil Code. A CASp can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy or potential occupancy of the lessee or tenant, if requested by the lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of the CASp inspection, the payment of fees for the CASp inspection, and the cost of making any repairs necessary to correct violations of the construction- related accessibility standards within the Premises. Tenant is hereby advised that any CASp inspection shall be at Tenant's sole cost and expense and that any violation within the Premises or on the Property shall be the responsibility of Tenant to correct.

38.16 OFAC Representation. For purposes hereof, "List" shall mean the Specially Designated Nationals and Blocked Persons List maintained by OFAC and/or on any other similar list maintained by OFAC pursuant to any authorizing statute, executive order, or regulation, and "OFAC" shall mean the Office of Foreign Assets Control, Department of the Treasury. Each party represents and warrants to the other that (i) each Person owning a ten percent (10%) or greater interest in such party is (A) not currently identified on the List, and (B) is not a person with whom a citizen of the United States is prohibited to engage in transactions by any trade embargo, economic sanction, or other prohibition of United States law, regulation, or Executive Order of the President of the United States and (ii) each party has implemented procedures, and will consistently apply those procedures, to ensure the foregoing representations and warranties remain true and correct at all times. Each party shall comply with all requirements of law relating to money laundering, anti-terrorism, trade embargos and economic sanctions, now or hereafter in effect and shall use reasonable efforts to notify the other in writing if any of the forgoing representations, warranties or covenants are no longer true or have been breached or if such party has a reasonable basis to believe that they may no longer be true or have been breached. In addition, at the request of a party, the other party shall provide such information as may be requested by the requesting to determine the other party's compliance with the terms hereof.

[Remainder of page intentionally left blank. Signatures on following page.]

IN WITNESS WHEREOF, this Lease is executed by the parties as of the Lease Date referenced on Page i of this Lease.

LANDLORD:

PARK AVENUE BUILDING, LLC, a California limited liability company

By: /s/ David Bruck

David Bruck,
Manager

TENANT:

METAGENOMI, INC.,
a Delaware corporation

By: /s/ Brian C Thomas

Name: Brian C. Thomas
Title: CEO

EXHIBIT A

PREMISES DESCRIPTION

All that certain real property situated in the City of Emeryville, County of Alameda, State of California, described as follows:

PARCEL ONE:

Beginning at a point on the eastern line of Hubbard Street, distant thereon southerly 125 feet from the intersection thereof with the southern line of Park Avenue, as said street and avenue are shown on the map hereinafter referred to; running thence southerly along said line of Hubbard Street, 50 feet; thence at right angles easterly 133 feet; thence at right angles northerly 50 feet; and thence at right angles westerly 133 feet to the point of beginning.

Being a portion of Block 24 as said block is shown on the "Map of art of Plot 6, Kellersberger's Survey of Vicente & Domingo Peralta Rancho, Property of J. S. Emery", etc., filed March 1,1889 in Book 19 of Maps at Page 68 in the office of the County Recorder of Alameda County.

PARCEL TWO:

Beginning at the point of intersection of the southern line of park Avenue with the eastern line of Hubbard Street, as said avenue and street are shown on the map hereinafter referred to; running thence southerly along said line of Hubbard Street, 125 feet, thence at right angles easterly 106 feet, 6 inches; thence at right angles northerly 125 feet to sard line of Park Avenue; and thence westerly along said line of Park Avenue, 106 feet, 6 inches to the point of beginning.

Being Lots 17 and 18 in Block 24 as said lots and block are shown on the "Map of Part of Plot 6, Kellersberger's Survey of Vicente & Domingo Peralta Rancho, property of J. S. Emery", etc., filed March I, 1889 in Book 19 of Maps at Page 68 in the office of the County Recorder of Alameda County.

PARCEL THREE:

The western 26.50 feet, front and rear measurement, of Lot 19 in Block 24, as said lot and block are shown on the "Map of part of Plot 6 Kellersberger's Survey of Vincente & Domingo Peralta Rancho", filed March 1, 1889 in Book 19 of Maps at Page 68 in the office of the County Recorder of Alameda County.

APN: 049-0617-007-01
ARB: None

EXHIBIT B

COMMENCEMENT DATE AMENDMENT
1485 PARK AVENUE

Re: Lease, dated September 29, 2021, between PARK AVENUE BUILDING, LLC, a California limited liability company ("Landlord"), and METAGENOMI, INC., a Delaware corporation ("Tenant"), and for Premises known as 1485 Park Avenue, Emeryville, California.

Tenant hereby verifies that the dates stated below are correct and further acknowledges and accepts possession of the Premises.

Commencement Date: _____
Rent Commencement Date: _____
Termination Date: _____

LANDLORD:

PARK AVENUE BUILDING, LLC,
a California limited liability company

By: _____
David Bruck
Manager

TENANT:

METAGE NOMI, INC.,
a Delaware corporation

By: _____
Name: _____
Title: _____

EXHIBIT C

TENANT WORK LETTER

This "Tenant Work Letter" will set forth the terms and conditions of the Work (as defined below) to be performed by Tenant. The term "Work" means the preparation and installation of the Tenant Improvements (as defined below), as more particularly described in this Tenant Work Letter. All terms not defined herein will have the meaning attributed to them in the Lease.

1. Condition of the Premises.

Landlord will deliver the Premises in its "as-is" condition, broom-clean with the roof, foundation, parking lot and existing Building systems in good working order and condition. Landlord will, at its sole cost and expense, ensure that all utilities are accessible and operable prior to the installation of the Tenant Improvements. All Work performed inside the exterior perimeter of the Premises, including the surfaces of any floors or ceilings, will be performed by Tenant at the expense of Tenant.

2. Tenant Improvements.

The "Tenant Improvements" consist of improvements constructed in the Premises pursuant to the plans and specifications mutually approved by Landlord and Tenant.

3. Tenant Improvement Allowance.

Tenant is entitled to a one-time tenant improvement allowance (the "Tenant Improvement Allowance") in the amount of up to Two Hundred Thirty-One Thousand Five Hundred Fifty Dollars ($231,550.00) for the design and construction of the Tenant Improvements. The Tenant Improvement Allowance may be used for all actual costs incurred performing the Work, including without limitation architecture, design, engineering, and permitting (collectively, "Soft Costs"); provided, however, that in no event shall the amount of Soft Costs exceed ten percent (10%) of the Tenant Improvement Allowance. In no event will Landlord be obligated for any costs in excess of the Tenant Improvement Allowance. No credit will be given for any unused portion of the Tenant Improvement Allowance.

Provided that Tenant is not in default hereunder beyond any applicable grace period, the Tenant Improvement Allowance shall be disbursed to Tenant, or as designated by Tenant, to Tenant's architect and/or General Contractor, on a monthly basis for costs theretofore incurred by Tenant for which the Tenant Improvement Allowance is applicable within thirty (30) days after Tenant has provided Landlord with a written request for such payment, together with (i) copies of all government approvals theretofore required, (ii) confirmation of the portion of the Work theretofore completed, certified by Tenant's architect and/or General Contractor, as appropriate, on standard AIA forms and (iii) partial lien waivers (conditioned solely on payment of the payment amount requested) and progress payment affidavits from General Contractor and from all subcontractors. Landlord shall be permitted to hold a retainage equal to the greater of 10% of any payment or the retainage amount specified in the contract with General Contractor. Landlord shall not be required to make final payment of the Allowance until thirty (30) days after Tenant has taken occupancy of the Premises and Landlord has received, in addition to the items required under clauses (i) and (ii) above, final lien waivers and affidavits from General Contractor and all subcontractors.

4. Plans and Specifications.

Tenant, through its architect (the "Architect") and its engineers (the "Engineers"), (the Architect and the Engineers to be selected by Tenant subject to reasonable agreement of Landlord will prepare the architectural, mechanical, and electrical plans ("Construction Plans") required for the installation of the Tenant Improvements, if any. Tenant will consult with Landlord, Architect, and the Engineers in the preparation of the Construction Plans.

4.1 Landlord's Review of Construction Plans. The Construction Plans are subject to the written approval of Landlord, which will be provided within ten (10) business days of receipt by Landlord and will not be unreasonably withheld, conditioned, or delayed.

4.2 Changes to the Construction Plans. If Landlord reasonably disapproves of the Construction Plans, it shall do so in writing providing reasonably detailed specificity as to the reason for the disapproval, and Tenant will cause Architect and the Engineers to modify the Construction Plans, where appropriate. Landlord will then have an additional five (5) business days to review the revised Construction Plans. Failure of Landlord to approve or disapprove of the Construction Plans within said 5-day period will constitute disapproval of the Construction Plans.

5. Permits.

Tenant will submit the final Construction Plans to all appropriate municipal authorities in order to secure the permits needed for the Work (the "Permits").

6. Contractor.

Subject to the reasonable approval of Landlord, Tenant will retain a contractor to construct the Tenant Improvements in accordance with this Tenant Work Letter (the "Contractor"). Tenant shall, prior to construction of the Tenant Improvements, cause the Contractor and any subcontractor(s) to provide insurance as reasonably required by Landlord.

7. Representatives.

7.1 Tenant hereby designates Arthur Salmon and Michael Charney (Spectrum Project Management Group) or their designee as its sole representative with respect to the matters set forth in this Tenant Work Letter, who, until further notice to Landlord, has full authority and responsibility to act on behalf of Tenant as required in this Tenant Work Letter.

7.2 Landlord hereby designates David Bruck as its sole representative with respect to the matters set forth in this Tenant Work Letter, who, until further notice to Tenant, has full authority and responsibility to act on behalf of Landlord as required in this Tenant Work Letter.

8. Landlord Supervision Fee.

Tenant will pay to Landlord a construction supervision and management fee ("Landlord Supervision Fee") equal to three percent (3%) of the total cost of the Tenant Improvements, including any costs in excess of the Tenant Improvement Allowance, which fee may be paid with funds from the Tenant Improvement Allowance.

9. Ownership of Tenant Improvements.

Upon termination of the Lease, all Tenant Improvements that are permanently affixed to the Premises, or that are paid for with the Tenant Improvement Allowance, will become the property of Landlord. Depreciation of the Tenant Improvements will be allocable to the parties pro-rata in proportion to their payment of the Tenant Improvements.

10. Work Free from Liens.

Tenant will keep the property and the Premises free and clear of liens, claims, security interests or other encumbrances arising out of the Work. Tenant will bond or otherwise remove any filed lien within ten (10) days after notice of the existence of the lien.

EXHIBIT D

RULES AND REGULATIONS

1. The sidewalks, halls, passages, exits, entrances, elevators, escalators, and stairways of the Building shall not be obstructed by Tenants or used by them for any purpose other than for ingress to and egress from their respective premises. The halls, passages, exits, entrances, elevators, escalators and stairways are not for the general public, and Landlord shall in all cases retain the right to control and prevent access thereto of all persons whose presence in the judgment of Landlord would be prejudicial to the safety, character, reputation and interests of the Building and its Tenants, provided that nothing herein contained shall be construed to prevent such access to persons with whom any Tenant normally deals in the ordinary course of its business, unless such persons are engaged in illegal activities. No Tenant and no agent, contractor, employee, subtenant, licensee, invitee, or visitor of any Tenant shall go upon the roof of the Building.

2. No sign, placard, picture, name, advertisement, or notice visible from the exterior of any Tenant's premises shall be inscribed, painted, affixed, or otherwise displayed by any Tenant on any part of the Building without the prior written consent of Landlord. Landlord will adopt and furnish to Tenant general guidelines relating to signs inside the Building on the office floors. Tenant agrees to conform to such guidelines but may request approval of Landlord for modifications, which approval will not be unreasonably withheld. All approved signs or lettering on doors shall be printed, painted, affixed, or inscribed at the expense of the Tenant by a person approved by Landlord, which approval will not be unreasonably withheld. Material visible from outside the Building will not be permitted. Landlord may remove any sign or material that does not conform to the foregoing requirements without any liability to Tenant, and Landlord may charge Tenant for the cost of any such removal.

3. The premises shall not be used for the storage of merchandise held for sale to the general public (except for customary amounts of inventory held in the usual course of business) or for lodging.

4. Tenant shall maintain the portions of its premises that are visible from the outside of the Building, from the hallways, or any other public areas of the Building in a neat, clean, and orderly condition.

5. No Tenant shall employ any person or persons other than a janitorial service approved by Landlord for the purpose of cleaning the premises, unless otherwise agreed to by Landlord in writing. Except with the written consent of Landlord, no person, or persons other than those approved by Landlord shall be permitted to enter the Building for the purpose of cleaning the same. No Tenant shall cause any unnecessary labor by reason of such Tenant's carelessness or indifference in the preservation of good order and cleanliness.

6. No Tenant shall alter any lock or install a new or additional lock or any bolt on any door of its premises without providing Landlord with keys or access cards for those locks immediately upon alteration.

7. No furniture, freight, or equipment of any kind shall be brought into the Building without the prior written consent of Landlord. The persons employed to move such equipment in or out of the Building must be acceptable to Landlord and provide Liability Insurance and Workman's Compensation coverage naming the Landlord and Management Company as additional insureds. Landlord shall have the right to prescribe the weight, size and position of all equipment, materials, furniture or other property brought into the Building. Heavy objects shall, if considered necessary by Landlord, stand on wood strips of such thickness as is necessary to properly distribute the weight. Landlord will not be responsible for loss of or damage to any such property from any cause, and all damage done to the Building by moving or maintaining such property shall be repaired at the expense of Tenant.

8. No Tenant shall place any items whatsoever on the roof of the Building without the prior written consent of Landlord, which may be withheld in Landlord's sole and absolute discretion.

9. No Tenant shall use or keep in the premises or the Building any kerosene, gasoline or inflammable or combustible fluid or material other than limited quantities thereof reasonably necessary for the operation or maintenance of customary office equipment. Without Landlord's prior written approval, no Tenant shall use any method of heating or air-conditioning other than that supplied by Landlord. No Tenant shall use or keep or permit to be used or kept any foul or noxious gas or substance in the premises, or permit the premises to be occupied or used in a manner offensive or objectionable to Landlord or other occupants of the Building by reason of noise, odors or vibrations, or interfere in any way with other Tenants or those having business therein. Each Tenant, at its sole cost and expense, shall install and maintain in good working order a fire extinguisher next to any duplicating or photocopying machine or similar heat generating equipment in its premises.

10. Landlord shall have the right, upon 90 days' prior notice and without liability to any Tenant, to change the name and street address of the Building.

11. Handicap lift is to be used only by individuals needing access assistance. The handicap lift is not to be used to move furniture, supplies or any other items.

12. No curtains, draperies, blinds, shutters, shades, screens or other coverings, hangings or decorations shall be attached to, hung, or placed in, or used in connection with any window or the Building without the prior written consent of Landlord. In any event, with the prior written consent of Landlord, such items shall be installed on the office side of Landlord's standard window covering and shall in no way be visible from the exterior of the Building.

13. No Tenant shall obtain for use in the premises ice, drinking water, food, beverage, towel, or other similar services, except at such reasonable regulations as may be fixed by Landlord. Landlord agrees to allow tenant to maintain bottled water service, coffee and tea service, and a soda vending machine in the premises, subject to Landlord's reasonable regulation.

14. Each Tenant shall ensure the doors of its premises are closed and locked and that all water faucets, water apparatus and utilities are shut off before Tenant or Tenant's employees leave the premises, so as to prevent waste or damage. For any default or carelessness in this regard Tenant shall make good all injuries sustained by other tenants or occupants of the Building or Landlord. On multiple-tenancy floors, all Tenants shall keep the doors to the Building corridors closed at all times except for ingress and egress.

15. The toilet rooms, toilets, urinals, wash bowls and other apparatus shall not be used for any purpose other than that for which they were constructed. No foreign substance of any kind whatsoever shall be thrown therein and the expense of any breakage, stoppage or damage resulting from the violation of this rule shall be borne by the Tenant who, or whose agents, contractors, employees, subtenants, licensees, invitees, or visitors shall have caused it.

16. No Tenant shall use or permit the use of any premises for a physician's or dentist's office, a dance or music studio, a school, a beauty salon or barber shop, a theater or exhibition hall, or for any business that would tend to generate a large amount of foot traffic in or about the Building. No Tenant shall sell, or permit the sale at retail, or newspapers, magazines, periodicals, theater tickets or any other goods or merchandise to the general public in or on the premises. No Tenant shall carry on, or permit or allow any employee or other person to carry on, the business of stenography, typewriting, copying, printing or any similar business in or from the premises of any Tenant be used for manufacturing of any kind or for the storage of merchandise or for the sale of merchandise, goods or property of any kind at auction, or for any business or activity other than that specifically provided for in such Tenant's lease.

17. No Tenant shall install any radio or television antenna, loudspeaker or other device on the roof or exterior walls of the Building.

18. No Tenant shall bring into or keep within the Building, or within its premises, animals, or birds. If its premises become infested with vermin, as a result of the use or any misuse or neglect of the premises by Tenant, its agents, contractors, employees, subtenants, licensees, invitees or visitors, Tenant shall at its sole cost and expense promptly cause the same to be exterminated from time to time to Landlord's satisfaction, and Tenant shall employ such licensed exterminator therefore as shall be approved in writing in advance by Landlord.

19. There shall not be used in any space, or in the public halls of the Building, either by any Tenant or others, any hand trucks except those equipped with rubber tires and side guards or such other material handling equipment as Landlord may approve. No other vehicles of any kind shall be brought by any Tenant into the Building or kept in or about its premises.

20. Each Tenant shall store all its trash and garbage within its premises. No material shall be placed in the trash boxes or receptacles if such material is of such nature that it may not be disposed of in the ordinary and customary manner of removing and disposing of trash and garbage in the City of Emeryville without being in violation of any law or ordinance governing such disposal. All garbage and refuse disposal shall only be made through entryways and elevators provided for such purpose and at such times as Landlord shall designate.

21. Canvassing, peddling, soliciting, and distribution of handbills or any other written materials in or about the Building are prohibited, and each Tenant shall cooperate to prevent the same.

22. The requirements of the Tenants will be attended to only upon application by telephone or in writing. Employees or Landlord shall not perform any work of do anything outside of their regular duties unless under special instructions from Landlord.

23. While in the Building, Tenant's contractors shall be subject to and under the control and direction of the manager of the Building. Tenant's contractors shall employ labor that is harmonious and compatible with other labor working in the Building.

24. Landlord may waive any one or more of these Rules and Regulations for the benefit of any particular Tenant or Tenants, but no such waiver by Landlord shall be construed as a waiver of such Rules and Regulations in favor of any other Tenant or Tenants, nor prevent Landlord from thereafter enforcing any such Rules and Regulations against any or all of the Tenant of the Building.

25. These Rules and Regulations are in addition to, and shall not be construed to in any way modify or amend, in whole or in part, the terms, covenants, agreements and conditions of any lease of premises in the Building.

26. Landlord reserves the right to make such other and reasonable rules and regulations as in its judgment may from time to time be needed for the safety, care, and cleanliness of the Building and for the preservation of good order therein.

EXHIBIT E

CONSENT TO SUBLEASE/ASSIGNMENT

This CONSENT TO (SUBLEASE/ASSIGNMENT) (the "Consent") is entered into by and between PARK AVENUE BUILDING, LLC, a California limited liability company ("Landlord"), METAGENOMI, INC., a Delaware corporation ("Tenant") and_____("Assignee/Subtenant"), effective as of _____,20_____.

RECITALS

A. Tenant currently leases that certain premises located at 1485 Park Avenue, Emeryville, California (the "Premises") pursuant to that certain Lease (the "Lease"), dated September 29, 2021, by and between Landlord and Tenant.

B. Tenant and Assignee/Subtenant have entered into that certain Assignment/ Sublease (the "Assignment/Sublease"), dated as of _____,20_____, a copy of which is attached hereto as Exhibit A, for (a portion of) the Premises (the "(Subleased) Premises").

C. Section 15 of the Lease requires Landlord's consent for any assignment or sublease. Pursuant to the terms of the Lease and this Consent, Landlord hereby consents to the Assignment/Sublease.

AGREEMENT

1. Consent to Assignment/Sublease. Landlord hereby consents to the Assignment/Sublease. This consent shall apply only to the Assignment/Sublease and shall not be deemed to be a consent to any further sublease or to any assignment.

2. Acknowledgment and Agreement by Assignee/Subtenant. Assignee/Subtenant acknowledges and agrees as follows:

2.1 Assignee/Subtenant hereby assumes the obligations under the Lease to the extent of the Assignment/Sublease. Assignee/Subtenant acknowledges that, to the extent of the Assignment/Sublease, he is liable jointly and severally with Tenant for payment of Rent and for the due performance of, and compliance with all the terms, covenants, conditions, and agreements of the Lease.

2.2 (For a Sublease) From and after the date of this Consent, in the event of any act or omission of Tenant that would give Subtenant the right, either immediately or after the giving of notice and passage of time, to terminate the Sublease or to claim a partial or total eviction, Subtenant will not exercise any such right,

2.2.1 Until Subtenant has given written notice of such act or omission to Landlord; and

2.2.2 Until the same period of time as is given to Tenant under the Sublease to cure such act or omission, but in all events no less than fifteen (15) days, shall have elapsed following the delivery of such notice to Landlord, without the cure of such act omission.

2.3 (For a Sublease) In the event that Landlord notifies Subtenant of an Event of Default under the Lease and demands that Subtenant pay its rent and all other sums due under the Sublease to Landlord, Subtenant shall honor such demand and pay its rent and all other sums due under the Sublease directly to Landlord or as otherwise required pursuant to such notice. Notwithstanding the foregoing, nothing in this Section 2.3 shall be construed to obligate Landlord to provide Subtenant with notice of any default under the Lease.

2.4 Assignee/Subtenant will send a copy of any notice or statement under the Assignment/Sublease to Landlord at the same time such notice or statement is sent to Tenant.

2.5 The Assignment/Sublease terminates no later than the Term Expiration Date. Should the Lease terminate prior to the Term Expiration Date for any reason whatsoever, the Assignment/Sublease will terminate immediately upon the termination of the Lease.

2.6 Assignee/Subtenant agrees to comply with all the provisions of the Lease, which are hereby incorporated into the Assignment/Sublease. To the extent of any inconsistency, the terms of the Assignment/Sublease will control.

2.7 Assignee/Subtenant agrees to indemnify Landlord to the full extent of the indemnity required by Tenant, as Tenant, under Section 13 of the Lease.

2.8 Any insurance required by Assignee/Subtenant in accordance with the Lease and the Assignment/Sublease shall name Landlord as "Additional-Insured".

3. Acknowledgment and Agreement by Tenant. Tenant, as tenant under the Lease and assignor/lessor under the Assignment/Sublease, acknowledges and agrees for itself and its successors and assigns, that:

3.1 This Consent does not:

(a) constitute a waiver or amendment by Landlord of any of its rights under the Lease; and/or

(b) in any way release Tenant from its obligations to comply with the terms, provisions, conditions, covenants, agreements, and clauses of the Lease.

3.2 The provisions of the Lease remain in full force and effect.

3.3 (For a Sublease) In the event of an Event of Default by Tenant under the Lease, Subtenant may, and shall upon demand of Landlord, pay all rent and all other sums due under the Sublease to Landlord as provided under this Consent.

4. No Obligation of Landlord. Landlord shall have no obligation or incur any liability with respect to the erection or completion of any improvements in the (Subleased) Premises for Assignee's/Subtenant's use or for the erection or completion of any improvements for Assignee's/Subtenant's use in connection with a relocation pursuant to the Lease, if any, of any portion of the premises leased to Tenant that may constitute all or a portion of the (Subleased) Premises. The foregoing shall not affect any obligations of Landlord to Tenant under the Lease.

5. Miscellaneous.

5.1 All notices required or permitted under this Consent to be given to Assignee/Subtenant and Tenant will be given as provided in the Assignment/Sublease. All notices required or permitted under this Consent to be given to Landlord will be given as provided in the Lease to Landlord at the following address:

Park Avenue Building, LLC
1105 La Grande Ave.
Napa, CA 94558
Attn: David Bruck

5.2 All exhibits and recitals attached to this Assignment/Sublease are hereby incorporated as though fully set forth herein. Any capitalized term that is not defined herein shall have the meaning attributed to it in the Lease.

5.3 This Consent supersedes any inconsistent provision of the Lease or the Sublease.

5.4 During the term of the Assignment/Sublease, Landlord has no obligation or any liability to Assignee/Subtenant with respect to any warranties of any nature whatsoever, whether pursuant to the Lease, the Assignment/Sublease or otherwise.

5.5 This Consent shall inure to the benefit of the parties hereto, their respective successors and permitted assigns; provided, however, that in the event of the assignment or transfer of the interest of Landlord, all obligations and liabilities of Landlord under this Consent will terminate and shall become the responsibility of Landlord's successor-in- interest.

5.6 This Consent shall be governed by and construed in accordance with the laws of the State of California.

5.7 This Consent may be executed in counterparts, each of which shall constitute an original, but all of which together shall constitute one (1) and the same instrument.

This Consent is effective as of the date first written above.

LANDLORD:

PARK AVENUE BUILDING, LLC,
a California limited liability company

By: **/s/ David Bruck**
David Bruck,
Manager

TENANT:

METAGENOMI, INC.,
a Delaware corporation

By: _____
Name: _____
Title: _____

ASSIGNEE:

_____

_____

EXECUTIVE EMPLOYMENT AGREEMENT

This Executive Employment Agreement (the "Agreement") is entered into as of the 20th day of March, 2023 (the "Effective Date") by and among Brian C. Thomas (the "Executive"), Metagenomi Inc. (the "Company") and Metagenomi Technologies, LLC, the parent of the Company (the "Parent," and together with the Company, "Metagenomi"). The Executive and the Company are collectively referred to as the "Parties"). This Agreement shall be effective as of the Effective Date.

RECITALS

WHEREAS, the Company desires to continue to employ the Executive and the Executive desires to continue to be employed by the Company under the terms and conditions contained herein;

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. Employment.

(a) Term. The Company hereby employs the Executive, and the Executive hereby accepts such employment, on the terms set forth herein commencing as of the Effective Date and continuing until this Agreement is terminated in accordance with the provisions of Section 3 hereof (the "Term"). The Executive's employment with the Company shall be "at-will," meaning that the Executive's employment may be terminated by the Company or Executive at any time and for any reason, subject to the terms of this Agreement, including but not limited to, Sections 3 and 4.

(b) Position and Duties. During the Term, the Executive shall serve as the Chief Executive Officer of the Company and of the Parent and shall have such powers and duties as may from time to time be prescribed by the Board of Directors of the Parent (the "Board"). The Executive shall devote the Executive's full working time and efforts to the business and affairs of Metagenomi. Notwithstanding the foregoing, the Executive may engage in appropriate civic, religious, charitable or other community activities and service on approved boards of directors as long as such services and activities are approved in advance by the Board in writing, and do not (i) create a conflict of interest or (ii) materially interfere with the Executive's obligations or performance of the Executive's duties to Metagenomi. The Executive's current outside activities are disclosed on Exhibit A, to be updated from time to time.

2. Compensation and Related Matters.

(a) Base Salary. During the Term, the Executive's initial annual base salary shall be five hundred thousand dollars ($500,000), subject to applicable withholdings and deductions. The base salary shall be evaluated periodically by the Board or the Compensation Committee of the Board (the "Compensation Committee"). The base salary in effect at any given time is referred to herein as "Base Salary". The Base Salary shall be payable in a manner that is consistent with the Company's usual payroll practices for senior executives.

(b) Incentive Compensation. During the Term, the Executive shall be eligible to receive an annual cash bonus as determined by the Board or the Compensation Committee from time to time. The Executive's target annual bonus shall be fifty percent (50%) of Executive's Base Salary (the "Target Bonus"). The actual amount of the annual bonus, if any, shall be determined in the sole discretion of the Board or the Compensation Committee, subject to the performance of the Executive and the Company in accordance with performance goals established by the Parent and the terms of any applicable incentive compensation plan that may be in effect from time to time. The Executive must be employed by the Company on the day such bonus is paid in order to earn or receive any annual bonus. The annual bonus, if any, shall be paid within thirty (30) days following the completion of the Company's annual financial audit for the fiscal year to which such bonus relates and the Company's receipt of an unqualified audit opinion for such audit.

(c) Equity. The Executive will be eligible to receive awards of stock options, restricted stock, profits interests units or other equity awards (each, an "Award") pursuant to any plans or arrangements the Parent (or if and as applicable, the Company) may have in effect from time to time. The Board or Compensation Committee, as applicable, will determine in its discretion whether Executive will be granted an Award and the terms of such Award. Any Award will be subject to the terms and conditions of an agreement to be provided to the Executive, the Parent's (or if and as applicable, the Company's) applicable equity incentive plan or arrangement as in effect and amended from time to time (each, an "Equity Incentive Plan"), and the Parent's Amended and Restated Limited Liability Company Agreement, as amended from time to time.

(d) Anti-Dilution. During the period from the Effective Date until the earliest of (i) the date of the Parent's (or the Company's) first public offering of its common units (or equivalent common securities) registered under the Securities Act of 1933, as amended, including (A) an initial public offering of the Parent's (or Company's) common units (or equivalent common securities) (the "Initial Public Offering"), (B) a direct listing of the Parent (or the Company), or (C) a de-spac transaction, and (ii) a Change in Control, subject to Executive's continuous service as Chief Executive Officer of the Company and Metagenomi, if, immediately following the final closing of any private placement preferred equity financing transaction (such financing an "Equity Financing" and such closing, a "Final Equity Financing Closing"), the percentage of equity securities held by the Executive is less than six percent (6%) of the Fully Diluted Capitalization (as defined below) as of the date of such Final Equity Financing Closing, then the Company will recommend to the Board that the Executive be granted an additional Award (an " Additional Equity Award"), the size of which will be such that, following the grant of such Additional Equity Award, the percentage of equity securities of the Parent held by Executive (inclusive of the Additional Equity Award) shall equal six percent (6%) of the Fully Diluted Capitalization as of the date of such grant. Unless otherwise determined by the Board or Compensation Committee, the terms of each Additional Equity Award with respect to vesting and acceleration will be identical to the vesting and acceleration terms of that certain Notice of Profits Interest Grant and Profits Interest Grant Agreement, in each case between Parent and Executive dated March 13, 2019; provided that the time-based vesting period of such Additional Equity Award will commence on the date of grant of such Additional Equity Award, and to the extent that the Additional Equity Award is granted as an option or profits interest, as applicable, the exercise price or threshold amount, as applicable, for the Additional Equity Award shall be no less than the fair market value as determined by the Board on the date of such grant. " Fully Diluted Capitalization" means the sum of the number of (i) the Parent's outstanding common units or shares (including all common units or shares issuable

or issued upon conversion of preferred units or shares or upon the exercise of outstanding warrants, options or any other convertible securities), (ii) units or shares that are reserved under any Equity Incentive Plan and that are not yet issued or subject to an outstanding Award and (iii) units or shares necessary to be added to any Equity Incentive Plan reserve of units or shares in order to grant the applicable Additional Equity Award. Notwithstanding the foregoing, in the event of an Equity Financing requiring certain milestones to be achieved in connection with the receipt of funds in such Equity Financing, the Fully Diluted Capitalization will include the units or shares issuable solely in the event the milestone-based units or shares in such Equity Financing are issued; provided, however, that (x) the applicable Additional Equity Award shall not vest under any circumstances unless the applicable milestone occurs and the milestone-based units or shares are issued and (y) any portion of such Additional Equity Award that is unvested due to an applicable milestone not being met shall terminate upon the earlier of (A) such time as the applicable milestone can no longer be met pursuant to the terms of the applicable agreement and (B) the occurrence of the Initial Public Offering.

(e) Employee Benefits. During the Term, the Executive will be eligible to participate in the Company's employee benefit plans and programs in effect from time to time for senior executives of the Company, subject to the terms and eligibility requirements of such plans and programs.

(f) Expenses. The Executive shall be eligible to receive reimbursement for all reasonable and documented business expenses incurred by the Executive during the Term in performing services hereunder, in accordance with the policies and procedures then in effect and established by the Company. In addition, the Company will reimburse the Executive for any documented attorney's fees incurred in connection with the negotiation of this Agreement (and any term sheet leading up to this Agreement) up to an amount not to exceed $20,000.

(g) Paid Time Off. During the Term, the Executive shall be entitled to paid time off in accordance with Company policy as in effect from time to time.

3. Termination. During the Term, the Executive's employment hereunder may be terminated without any breach of this Agreement under the following circumstances:

(a) Death. The Executive's employment hereunder shall terminate upon the Executive's death, and the Executive or the Executive's estate will be eligible to receive death benefits in accordance with the Company's plans, programs, and practices as may be in effect at such time (if any).

(b) Disability. The Company may terminate the Executive's employment if the Executive is disabled and unable to perform or expected to be unable to perform the essential functions of the Executive's then-existing position or positions under this Agreement with or without reasonable accommodation for a period of one hundred eighty (180) days (which need not be consecutive) in any twelve (12)-month period. Upon such termination, the Executive will be eligible to receive disability benefits in accordance with the Company's plans, programs, and practices as may be in effect at such time (if any). If any question shall arise as to whether during any period the Executive is disabled so as to be unable to perform the essential functions of the Executive's then existing position or positions with or without reasonable accommodation, the

Executive may, and at the request of the Company shall, submit to the Company a certification in reasonable detail by a physician selected by the Company to whom the Executive or the Executive's guardian has no reasonable objection as to whether the Executive is so disabled or how long such disability is expected to continue, and such certification shall for the purposes of this Agreement be conclusive of the issue. The Executive shall cooperate with any reasonable request of the physician in connection with such certification. If such question shall arise and the Executive shall fail to submit such certification, the Company's determination of such issue shall be binding on the Executive. Nothing in this Section 3(b) shall be construed to waive the Executive's rights, if any, under existing law including, without limitation, the Family and Medical Leave Act of 1993, 29 U.S.C. §2601 et seq. and the Americans with Disabilities Act, 42 U.S.C. §12101 et seq.

(c) Termination by Company for Cause. The Company may terminate the Executive's employment hereunder for Cause. For purposes of this Agreement, "Cause" shall mean any of the following: (i) Executive's commission of any act of fraud, embezzlement, dishonesty or other act involving moral turpitude, (ii) Executive's commission of a felony under the laws of the United States or any state thereof or any foreign jurisdiction, (iii) Executive's continued failure to perform lawfully assigned duties for thirty (30) days after receiving written notification from the Board, (iv) Executive's unauthorized use or disclosure of confidential information or trade secrets of Metagenomi or any of its affiliates or other violation of any material Metagenomi written policy or breach of any of Executive's written agreements with the Company or any of its affiliates relating to employment, non-competition, non-solicitation, nondisclosure, and/or assignment of inventions, (v) Executive's failure to cooperate with a bona fide internal investigation or an investigation by regulatory or law enforcement authorities, after being instructed by the Company to cooperate, or the willful destruction or failure to preserve documents or other materials known to be relevant to such investigation or the inducement of others to fail to cooperate or to produce documents or other materials in connection with such investigation, or (vi) any other misconduct or gross negligence by Executive that adversely affects the business of Metagenomi in a material manner. Cause shall be determined by the Board in its discretion, and such determination shall be conclusive and binding. If the Board determines Cause exists and the Executive resigns before a termination for Cause is effectuated, the Board may treat such termination as by the Company for Cause.

(d) Termination by Company Without Cause. The Company may terminate the Executive's employment hereunder at any time without Cause. Any termination by the Company of the Executive's employment under this Agreement which does not constitute a termination for Cause under Section 3(c) and does not result from the death or disability of the Executive under Section 3(a) or (b) shall be deemed a termination without Cause.

(e) Termination by the Executive. The Executive may terminate the Executive's employment hereunder at any time for any reason, including but not limited to, for Good Reason. " Good Reason" means that the Executive resigns from employment within ninety (90) days after any of the following is undertaken by the Company (or its acquirer) without the Executive's consent: (i) a reduction in Executive's title, (ii) a material reduction of Executive's duties, authority or responsibilities, (iii) any material reduction of Executive's Base Salary (other than a proportionate reduction in Executive's Base Salary that affects all senior management of the Company); or (iv) a material change in the geographic location at which Executive must

perform services; provided that in no instance will the relocation of Executive to a facility or location of thirty-five (35) miles or less from Executive's then current office location be deemed material for purposes of this Agreement; provided, however, that Good Reason shall not exist unless Executive has provided written notice to the Board of the purported grounds for the Good Reason within sixty (60) days of its initial existence and the Company has not remedied the condition after having been provided at least thirty (30) days to remedy the condition.

(f) Notice of Termination. Except for termination due to the Executive's death as specified in Section 3(a), any termination of the Executive's employment by the Company or any such termination by the Executive shall be communicated by written Notice of Termination to the other party hereto. If Executive terminates employment with the | Company without Good Reason, Executive shall provide thirty (30) days' notice to the Company, and the Company shall have the option to accelerate the notice period and pay Executive in lieu of the remainder of the thirty (30)-day notice period.

(g) Date of Termination. For the purposes of this Agreement, " Date of Termination" shall mean: (i) if the Executive's employment is terminated by death, the date of Executive's death; (ii) if the Executive's employment is terminated for any reason other than death, the date that the Executive's employment with the Company terminates.

(h) Resignation of All Other Positions. Upon termination of employment for any reason, unless otherwise agreed in writing, the Executive shall be deemed to have resigned from all officer and board member positions (if applicable) that the Executive holds with the Company or any of its subsidiaries and affiliates. The Executive shall execute any documents in reasonable form as may be requested to confirm or effectuate any such resignations.

4. Compensation Upon Termination.

(a) Accrued Obligations. If the Executive's employment with the Company is terminated for any reason, the Company shall pay or provide to the Executive (or to the Executive's authorized representative or estate) (i) any Base Salary earned through the Date of Termination; (ii) unpaid expense reimbursements (subject to, and in accordance with, Section 2(f) of this Agreement); (iii) any accrued but unused vacation, and (iv) any vested benefits the Executive may have under any employee benefit plan of the Company through the Date of Termination, which vested benefits shall be paid and/or provided in accordance with the terms of such employee benefit plans (collectively, the "Accrued Obligations").

(b) Severance Upon Termination by the Company without Cause or by the Executive for Good Reason Outside of the Change in Control Period. During the Term, if the Executive's employment is terminated by the Company without Cause or the Executive terminates employment for Good Reason, in each case outside of the Change in Control Period, then in addition to the Accrued Obligations, subject to the Executive (i) resigning from all positions, (ii) signing a separation and general release agreement (including a re-affirmation of any continuing obligations and restrictive covenants) in a form and manner satisfactory to the Company (the "Separation and General Release Agreement"), (iii) the Separation and General Release Agreement becoming irrevocable and fully effective, all within sixty (60) days after the Date of Termination, and (iv) the Executive not breaching any of the post-employment covenants and contractual obligations to the Company, the Company shall provide the Executive the following payments and benefits (the "Severance Benefits):

A. the Company shall pay the Executive a lump sum amount equal to nine (9) months of the Executive's then current Base Salary (the "Severance Pay"), payable within sixty (60) days following the Date of Termination;

B. the Company shall pay the Executive a pro-rated Target Bonus (pro-rated based on the number of days that the Executive was employed in such year, divided by 365) for the year in which the termination occurs (the "Pro-rated Bonus"), in a lump sum amount payable within sixty (60) days following the Date of Termination; and

C. if the Executive and Executive's eligible dependents were participating in the Company's group health plan immediately prior to the Date of Termination and timely elects continued group health coverage pursuant to the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), then the Company shall pay to the Executive a monthly cash payment for nine (9) months in an amount equal to Executive's and Executive's eligible dependents monthly COBRA premium, subject to tax-related deductions and withholdings and payable in accordance with the Company's regular payroll schedule.

(c) Severance Upon Termination by the Company without Cause or by the Executive for Good Reason during the Change in Control Period. During the Term, if the Executive's employment is terminated by the Company without Cause or the Executive terminates employment for Good Reason, in each case during the Change in Control Period, then in addition to the Accrued Obligations, subject to the Executive (i) resigning from all positions, (ii) signing the Separation and General Release Agreement, (iii) the Separation and General Release Agreement becoming irrevocable and fully effective, all within sixty (60) days after the Date of Termination, and (iv) the Executive not breaching any of the post-employment covenants and contractual obligations to the Company, the Company shall provide the Executive the following payments and benefits (the "Change in Control Severance Benefits):

A. the Company shall pay the Executive a lump sum amount equal to twelve (12) months of the Executive's then current Base Salary (the "Enhanced Severance Pay"), payable within sixty (60) days following the Date of Termination;

B. the Company shall pay the Executive the Pro-rated Bonus, in a lump sum amount payable within sixty (60) days following the Date of Termination;

C. if the Executive and Executive's eligible dependents were participating in the Company's group health plan immediately prior to the Date of Termination and timely elects continued group health coverage pursuant to COBRA, then the Company shall pay to the Executive a monthly cash payment for twelve (12) months in an amount equal to Executive's and Executive's eligible dependents monthly COBRA premium, subject to tax-related deductions and withholdings and payable in accordance with the Company's regular payroll schedule; and

D. notwithstanding anything to the contrary in any applicable Award agreement or Equity Incentive Plan, one hundred percent (100%) of Executive's then-outstanding and unvested Awards shall immediately vest on the Date of Termination.

(d) For the avoidance of doubt, in no case will the Executive be * eligible for benefits under both Section 4(b) and Section 4(c). The Company shall provide the applicable severance benefits under Section 4(b) or Section 4(c) starting within sixty (60) days after the Date of Termination; provided, however, that if the sixty (60)-day period begins in one calendar year and ends in a second calendar year, such severance benefits, shall begin to be paid in the second calendar year by the last day of such sixty (60)-day period. Each payment pursuant to this Agreement is intended to constitute a separate payment for purposes of Treasury Regulation Section 1.409A-2(b)(2).

(e) The amounts payable and benefits provided to Executive on or following the Date of Termination pursuant to this Section 4 shall be in full and complete satisfaction of Executive's rights under this Agreement and any other claims for additional compensation that Executive may have in respect of Executive's employment with the Company or any of its subsidiaries. The receipt of any severance payments or benefits pursuant to Section 4 shall be subject to Executive not violating any of Executive's post-employment contractual obligations, including Executive's non-competition, non-solicitation, and non-disclosure obligations referenced in this Agreement or in any other agreement between the Parties. In the event Executive breaches any of Executive's post-employment obligations, in addition to all other legal and equitable remedies, the Company shall have the right to terminate or suspend all continuing payments and benefits to which the Executive may otherwise be entitled pursuant to Section 4 and shall be permitted to recover any severance payments or benefits provided, without affecting the Executive's release or Executive's obligations under the Separation and General Release Agreement.

(f) For purposes of this Agreement, "Change in Control" means the occurrence of any of the following events: (i) any "person" (as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended) becomes the "beneficial owner" (as defined in Rule 13d-3 under said Act), directly or indirectly, of securities of the Company representing fifty percent (50%) or more of the total voting power represented by the Company's then outstanding voting securities; (ii) the consummation of a merger or consolidation of the Company with any other corporation, other than a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity) at least fifty percent (50%) of the total voting power represented by the voting securities of the Company or such surviving entity outstanding immediately after such merger or consolidation; or (iii) the consummation of the sale, lease or other disposition by the Company of all or substantially all the Company's assets. "Change in Control Period" means the period beginning on the date two (2) months prior to, and ending on the date that is twelve (12) months following, a Change in Control.

5. Section 409A.

(a) Anything in this Agreement to the contrary notwithstanding, if at the time of the Executive's separation from service within the meaning of Section 409A of the Code, the Company determines that the Executive is a "specified employee" within the meaning of Section 409A(a)(2)(B)(i) of the Code, then to the extent any payment or benefit that the Executive becomes entitled to under this Agreement or otherwise on account of the Executive's separation from service would be considered deferred compensation otherwise subject to the twenty percent (20%) additional tax imposed pursuant to Section 409A(a) of the Code as a result of the application of Section 409A(a)(2)(B)(i) of the Code, such payment shall not be payable and such benefit shall not be provided until the date that is the earlier of (A) six (6) months and one (1) day after the Executive's separation from service, or (B) the Executive's death. If any such delayed cash payment is otherwise payable on an installment basis, the first payment shall include a catch-up payment covering amounts that would otherwise have been paid during the six (6)-month period but for the application of this provision, and the balance of the installments shall be payable in accordance with their original schedule.

(b) All in-kind benefits provided and expenses eligible for reimbursement under this Agreement shall be provided by the Company or incurred by the Executive during the time periods set forth in this Agreement. All reimbursements shall be paid as soon as administratively practicable, but in no event shall any reimbursement be paid after the last day of the taxable year following the taxable year in which the expense was incurred. The amount of in-kind benefits provided or reimbursable expenses incurred in one taxable year shall not affect the in-kind benefits to be provided or the expenses eligible for reimbursement in any other taxable year (except for any lifetime or other aggregate limitation applicable to medical expenses). Such right to reimbursement or in-kind benefits is not subject to liquidation or exchange for another benefit.

(c) To the extent that any payment or benefit described in this Agreement constitutes "non-qualified deferred compensation" under Section 409A of the Code, and to the extent that such payment or benefit is payable upon the Executive's termination of employment, then such payments or benefits shall be payable only upon the Executive's "separation from service." The determination of whether and when a separation from service has occurred shall be made in accordance with the presumptions set forth in Treasury Regulation Section 1.409A-1(h).

(d) The Parties intend that this Agreement will be administered in accordance with Section 409A of the Code. To the extent that any provision of this Agreement is ambiguous as to its compliance with Section 409A of the Code, the provision shall be read in such a manner so that all payments hereunder comply with Section 409A of the Code. Each payment pursuant to this Agreement is intended to constitute a separate payment for purposes of Treasury Regulation Section 1.409A-2(b)(2). The Parties agree that this Agreement may be amended, as reasonably requested by either party, and as may be necessary to fully comply with Section 409A of the Code and all related rules and regulations in order to preserve the payments and benefits provided hereunder without additional cost to either party.

(e) The Company makes no representation or warranty and shall have no liability to the Executive or any other person if any provisions of this Agreement are determined to constitute deferred compensation subject to Section 409A of the Code but do not satisfy an exemption from, or the conditions of, such Section.

6. Restrictive Covenants.

(a) The Executive hereby re-affirms the Employee Invention Assignment and Confidentiality Agreement that the Executive signed on September 16, 2016 and that is attached hereto as Exhibit B (the "Restrictive Covenant Agreement"), and the Restrictive Covenant Agreement is hereby incorporated as a material term of this Section and this Agreement.

(b) Protected Disclosures. For the avoidance of doubt, the Executive understands that pursuant to the federal Defend Trade Secrets Act of 2016, the Executive shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that (A) is made (i) in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney; and (ii) solely for the purpose of reporting or investigating a suspected violation of law; or (B) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. The Executive further understands that nothing contained in this Agreement or the Restrictive Covenant Agreement limits the Executive's ability to (A) communicate with any federal, state or local governmental agency or commission, including to provide documents or other information, without notice to the Company, (B) share compensation information concerning the Executive or others, except that this does not permit the Executive to disclose compensation information concerning others that the Executive has obtained because the Executive's job responsibilities require or allow access to such information, or (C) discuss or disclose information about unlawful acts in the workplace, such as harassment or discrimination or any other conduct that the Executive has reason to believe is unlawful.

(c) Litigation and Regulatory Cooperation, During and after the Executive's employment, the Executive shall cooperate fully with the Company in the defense or prosecution of any claims or actions now in existence or which may be brought in the future against or on behalf of the Company which relate to events or occurrences that transpired while the Executive was employed by the Company. The Executive's full cooperation in connection with such claims or actions shall include, but not be limited to, being available to meet with counsel to prepare for discovery or trial and to act as a witness on behalf of the Company at mutually convenient times. During and after the Executive's employment, the Executive also shall cooperate fully with the Company in connection with any investigation or review of any federal, state or local regulatory authority as any such investigation or review relates to events or occurrences that transpired while the Executive was employed by the Company. The Company shall reimburse the Executive for any reasonable out-of-pocket expenses incurred in connection with the Executive's performance of obligations pursuant to this Section.

7. Third-Party Agreements and Rights. The Executive represents to the Company that the Executive's execution of this Agreement, the Executive's employment with the Company and the performance of the Executive's duties for the Company as contemplated under this Agreement will not violate any obligations the Executive may have to any other party. In the Executive's work for the Company, the Executive will not disclose or make use of any information in violation of any agreements with or rights of any such other party, and the Executive will not bring to the premises of the Company any copies or other tangible embodiments of non-public information belonging to or obtained from any such other party.

8. Severability. If any provision of this Agreement, or any part thereof, is held by a court, arbitrator or other authority of competent jurisdiction to be invalid or unenforceable, the parties agree that the court, arbitrator or authority making such determination will have the power to and shall, reduce the duration or scope of such provision or to delete specific words or phrases as necessary (but only to the minimum extent necessary) to cause such provision or part and the remainder of this Agreement to be valid and enforceable to the fullest extent permitted by applicable law. If such court, arbitrator or authority does not have I the legal authority to take the actions described in the preceding sentence, the parties agree to negotiate in good faith a modified provision that would, in so far as possible, reflect the original intent of this Agreement without violating applicable law.

9. Remedies. The Executive acknowledges that the restrictions contained in this Agreement are reasonable and necessary to protect the Company's legitimate business interests and that any violation of the provisions contained herein would result in irreparable injury to the Company and that monetary damages may not be sufficient to compensate the Company for any economic loss which may be incurred by reason of breach of the restrictions contained herein. In the event of a breach or a threatened breach by the Executive of any provision contained herein, the Company shall be entitled to a temporary restraining order and injunctive relief restraining the Executive from the commission of any breach, shall not be required to provide any bond or other security in connection with obtaining any such equitable remedy and shall be entitled to recover the Company's reasonable attorneys' fees, costs and expenses related to the breach or threatened breach. Nothing contained in this Section shall be construed as prohibiting the Company from pursuing any other remedies available to it for any breach or threatened breach, including, without limitation, the recovery of money damages. In the event of a breach by Executive of any covenants contained herein, the term of such covenant shall be tolled until such breach has been duly cured.

10. Withholding. All payments made by the Company to the Executive under this Agreement shall be net of any tax or other amounts required to be withheld or deducted by the Company under applicable law.

11. Survival. The provisions of this Agreement and any other confidentiality, invention assignment, or other post-termination restrictive covenant obligations of the Executive to the Company shall survive the termination of this Agreement and/or the termination of the Executive's employment to the extent necessary to effectuate the terms contained herein.

12. Waiver. No waiver of any provision hereof shall be effective unless made in writing and signed by the waiving party. The failure of any party to require the performance of any term or obligation of this Agreement, or the waiver by any party of any breach of this Agreement, shall not prevent any subsequent enforcement of such term or obligation or be deemed a waiver of any subsequent breach.

13. Notices. Any notices, requests, demands and other communications provided for by this Agreement shall be sufficient if in writing and (a) delivered in person, (b) sent by a nationally recognized overnight courier service or by registered or certified mail, postage prepaid, return receipt requested, or (c) sent by electronic mail, to the Executive at the last mailing address or e-mail address, as applicable, the Executive has filed in writing with the Company or, in the case of the Company, at its main offices, attention of the Board, with a copy to legal@metagenomi.co.

14. Amendment. This Agreement may be amended or modified only by a written instrument signed by the Executive and by a duly authorized representative of the Company.

15. Governing Law. This Agreement shall be construed under and be governed in all respects by the laws of the State of California, without giving effect to the conflict of laws principles of such state.

16. Assignment; Successor to Company. Neither the Company nor the Executive may make any assignment of this Agreement or any interest herein, by operation of law or otherwise, without the prior written consent of the other party. Notwithstanding the foregoing, the Company may assign its rights under this Agreement, without any consent of the Executive, to any of the Company's affiliates or successors (including if the Company or any of Metagenomi effects a reorganization, consolidates with or merges into any other corporation, limited liability company, partnership, organization or other entity, or transfers all or substantially all of its properties or assets to any other corporation, limited liability company, partnership, organization or other entity), in which case all references to the "Company" shall be deemed to mean the assignee or a designated affiliate of the assignee. This Agreement shall inure to the benefit of and be binding upon the Company and the Executive, and their respective successors, executors, administrators, heirs and permitted assigns.

17. No Third-Party Beneficiaries. This Agreement is intended solely for the benefit of the parties and the Company's respective successors and permitted assigns and shall not confer upon any other person any remedy, claim, liability, reimbursement, or other right. The Agreement is not intended and shall not be construed to create any third party beneficiaries or to provide to any third parties with any remedy, claim, liability, reimbursement, cause of action, or other right or privilege.

18. Integration. This Agreement and the Restrictive Covenant Agreement constitutes the entire agreement between the Parties with respect to the subject matter hereof and supersedes all prior written or oral agreements (including any previous term sheets) between the Parties concerning such subject matter, but does not in any way merge with or supersede any other confidentiality, assignment of inventions or other restrictive covenant agreement or obligation entered into between the Parties, which agreements and obligations shall supplement, and shall not limit or be limited by, this Agreement and the Restrictive Covenant Agreement.

19. Counterparts. This Agreement may be executed in any number of counterparts, each of which when so executed and delivered shall be taken to be an original; but such counterparts shall together constitute one and the same document.

[Remainder of Page Left Intentionally Blank]

IN WITNESS WHEREOF, the parties have executed this Agreement effective on the Effective Date.

METAGENOMI, INC.

Dated: 3/20/2023

By: /s/ Simren Delaney
Name: Simren Delaney
Title: Vice President, Legal

METAGENOMI TECHNOLOGIES, LLC

Dated: 3/20/2023

By: /s/ Sebastian Bernales
Name: Sebastian Bernales
Title: Manager; Member of Compensation Committee

EXECUTIVE

Dated: 3/20/2023

/s/ Brian C. Thomas
Brian C. Thomas

Exhibit A

Outside Activities

- Board member for Haya Therapeutics, Inc.

Exhibit B

Restrictive Covenant Agreement

19 January 2021

Jian Irish

Re: Offer of Employment by Metagenomi, Inc.

Dear Jian:

We are very pleased to confirm our offer to you of employment with Metagenomi, Inc. (the "***Company***"). The terms of our offer and the benefits currently provided by the Company are as follows:

1. **Position and Start Date**. You are being offered the position of Chief Operations Officer reporting to the Chief Executive Officer. This is an exempt position to be based partly in our Emeryville office or partly working remotely, subject to such periodic travel as may be required from time to time. Your anticipated start date will be 14 January 2021.

2. **Responsibilities**. You will have the duties and responsibilities commensurate with the duties and responsibilities customarily associated with the position of Chief Operations Officer and such other duties and responsibilities as may be prescribed by the Chief Executive Officer or as determined by the Board (as defined below). These duties may include the responsibilities outlined in Appendix A.

You will be expected to devote all of your business time and attention to this position, but as an exempt employee, you must work such hours as may be required by the nature of your work and will not be eligible for overtime pay. You shall devote all of your business time, attention and energy to the Company and shall not, during the term of your employment, be actively engaged in any managerial or employment capacity in any other business activity for gain, profit or other pecuniary advantage without the written consent of the Company.

Notwithstanding the foregoing, we acknowledge the consulting agreement to be executed between yourself and Affini-T Therapeutics, Inc. (the "***Affini-T Consulting Agreement***") and deem that the services and obligations thereunder will not be in conflict with your duties and responsibilities to the Company.

3. **Expenses**. The Company will reimburse you for any reasonable pre-approved expenses incurred in the course of your employment. Requests for reimbursement will be in a form acceptable to the Company and shall include appropriate documentation substantiating the expenses.

4. **Base Salary**. Your starting salary will be $375,000 per year, payable in accordance with the Company's standard payroll schedule, and will be subject to periodic review by the Compensation Committee of the Board.

5. **Annual Incentive Bonus**. You will be eligible for an incentive bonus of 35% of your base salary, based on the achievement of performance objectives as determined by the Compensation Committee of the Board in its sole discretion. This Annual Incentive Bonus will be pro-rated for the initial year of participation based on the period of time you are employed by the Company. Any Annual Incentive Bonus for a fiscal year will be paid within 2½ months after the close of that fiscal year, but only if you are still employed by the Company at the time of payment. The determinations of the Board with respect to your Annual Incentive Bonus will be final and binding.

6. **Benefits**. In addition, you will be eligible to participate in regular health insurance, retirement plan, and other employee benefit plans established by the Company for its employees from time to time. The Company reserves the right to change or otherwise modify, in its sole discretion, the preceding terms of employment.

7. **Equity**. We will recommend to the Board of Managers (the "***Board***") of Metagenomi Technologies, LLC, the parent entity of the Company (the "***Parent***"), that you be granted 480,605 Common Units of the Parent (the "***Equity Grant***") in the form of profits interests pursuant to the terms of the Parent's 2019 Equity Incentive Plan (the "***Plan***"). The Equity Grant will vest over a period of four years, with 25% of the Equity Grant vesting on the one-year anniversary of your start date, and the remainder vesting in 36 equal monthly installments thereafter, so long as you continue to provide services to the Company or the Parent. The grant of such Equity Grant by the Parent is subject to the Board's approval and this promise to recommend such approval is not a promise of compensation and is not intended to create any obligation on the part of the Company. Further details on the Plan and your Equity Grant will be provided upon approval of such grant by the Board.

Upon the occurrence of a Change of Control (as defined below), the vesting of any remaining Common Units in the Equity Grant shall be accelerated and all such Common Units shall be deemed fully vested.

For the purposes of this agreement, the term "***Change of Control***" means either:

(1) the acquisition of the Company by another entity by means of any transaction or series of related transactions (including, without limitation, any reorganization, merger or consolidation or stock transfer, but excluding any such transaction effected primarily for the purpose of changing the domicile of the Company), unless the Company's stockholders of record immediately prior to such transaction or series of related transactions hold, immediately after such transaction or series of related transactions, at least 50% of the voting ower of the surviving or acquiring entity (provided that the sale by the Company of its securities for the purposes of raising additional funds shall not constitute a Change of Control hereunder); or

(2) a sale of all or substantially all of the assets of the Company.

8. **Termination of Consulting Agreement**. A consulting agreement was executed between yourself and the Company on 1 September 2020 ("***the Metagenomi Consulting Agreement***"). With your signature acknowledging and agreeing to this offer of employment, you hereby also consent to the termination of the Metagenomi Consulting Agreement and as such, will not receive any compensation under the Metagenomi Consulting Agreement. To the extent there is a conflict between your obligations under the Metagenomi Consulting Agreement and this letter agreement, the terms of this letter agreement will prevail.

9. **Equity Award under Consulting Agreement**. Pursuant to the Metagenomi Consulting Agreement, the Parent was to grant you a total of 36,000 Common Units subject to the vesting provisions and other terms and conditions of the Plan. If such grant had occurred on 1 September 2020, you would currently have 5,000 Common Units vested and 31,000 Common Units unvested. With the termination of the Metagenomi Consulting Agreement in accordance with paragraph 8 herein, you agree that in lieu of any Common Units owed under the Metagenomi Consulting Agreement, the Company will grant you 5,000 Common Units in recognition of services rendered from 1 September 2020 to 13 January 2021. For the avoidance of doubt, this grant of 5,000 Common Units will be in addition to the Equity Grant outlined in paragraph 7 herein.

10. **Severance**. If you are terminated not for Cause, or resign for Good Reason, you will receive 6 months Base Salary and pro rated Annual Incentive Bonus, and 6 months vesting acceleration.

For the purposes of this agreement, the terms of 'Cause' and 'Good Reason' is defined below.

"Cause" means a termination of your employment by the Company due to: (i) your conviction of a felony or your entering a plea of nolo contendere to a felony; (ii) your recklessness, dishonesty, willful malfeasance, or gross misconduct in connection with your employment duties hereunder that result in material harm to the Company; or (iii) your willful failure to perform the duties assigned to you pursuant to the terms hereof and your failure to correct within thirty (30) days of written notice.

"Good Reason" means the occurrence of any of the following without your written consent: (i) the Company's material breach of any provision of this Agreement; (ii) any material adverse change in your compensation, position, authority, duties or responsibilities, or any other action by the Company or (iii) relocation of your primary work location by more than thirty (30) miles; provided, however, that none of the above shall constitute Good Reason unless you have provided the Company with written notice of the Company's alleged actions constituting Good Reason within thirty (30) days after the initial existence of any such alleged actions and the Company has not cured any such alleged actions constituting Good Reason within thirty (30) days of the Company's receipt of such written notice; provided further, that a termination by you for Good Reason shall not be deemed to have occurred unless the termination occurs within six (6) months after the initial existence of any of the conditions specified above.

11. **Protection of Confidential and Proprietary Information**. As an employee of the Company, you will have access to certain confidential information of the Company and you may, during the course of your employment, develop certain information or inventions that will be the property of the Company. To protect the Company's interests, as a condition of employment, you must sign and abide by the Company's standard "Employee Invention Assignment and Confidentiality Agreement."

12. **No Breach of Obligations to Prior Employers**. We wish to impress upon you that we do not want you to, and we hereby direct you not to, bring with you any confidential or proprietary material of any former employer or violate any other obligations you may have to any former employer. You represent that your signing of this offer letter, agreement(s) concerning profits interests granted to you, if any, under the Plan and the Company's Employee Invention Assignment and Confidentiality Agreement and your commencement of employment with the Company will not violate any agreement currently in place between yourself and current or past employers.

13. **No Competition During Employment**. During the period that you render services to the Company, you agree to not engage in any employment, business or activity that is in any way competitive with the business or proposed business of the Company. You will disclose to the Company in writing any other gainful employment, business or activity that you are currently associated with or participate in that competes with the Company. You will not assist any other person or organization in competing with the Company or in preparing to engage in competition with the business or proposed business of the Company.

14. **At Will Employment**. Employment with the Company is for no specific period of time. Should you accept our offer, you will be an at-will employee of the Company, which means the employment relationship can be terminated by either of us for any reason, at any time, with or without prior notice and with or without cause. Any statements or representations to the contrary (and, indeed, any statements contradicting any provision in this letter) are superseded by this agreement. Further, your participation in any benefit program is not to be regarded as assuring you of continuing employment for any particular period of time. Although your job duties, title, compensation and benefits, as well as the Company's personnel policies and practices, may change from time to time, the "at-will" nature of your employment may be changed only in an express, written employment agreement signed by you and a duly authorized officer of the Company (other than you).

15. **Tax Matters**. All forms of compensation referred to in this agreement are subject to reduction to reflect applicable withholding and payroll taxes and other deductions required by law.

16. **Authorization to Work**. Please note that because of employer regulations adopted in the Immigration Reform and Control Act of 1986, within three (3) business days of starting your new position you will need to present documentation demonstrating that you have authorization to work in the United States. If you have questions about this requirement, which applies to U.S. citizens and non-U.S. citizens alike, please let me know.

17. **Arbitration and Class Action Waiver**. You and the Company agree to submit to mandatory binding arbitration any and all claims arising out of or related to your employment with the Company and the termination thereof, including, but not limited to, claims for unpaid wages, wrongful termination, torts, stock or stock options or other ownership interest in the Company, and/or discrimination (including harassment) based upon any federal, state or local ordinance, statute, regulation or constitutional provision except that each party may, at its, his or her option, seek injunctive relief in court related to the improper use, disclosure or misappropriation of a party's private, proprietary, confidential or trade secret information

(collectively, "***Arbitrable Claims***"). Further, to the fullest extent permitted by law, you and the Company agree that no class or collective actions can be asserted in arbitration or otherwise. All claims, whether in arbitration or otherwise, must be brought solely in your or the Company's individual capacity, and not as a plaintiff or class member in any purported class or collective proceeding. Nothing in this Arbitration and Class Action Waiver section, however, restricts your right, if any, to file in court a representative action under applicable law, including California Labor Code Sections 2698, *et seq.*

SUBJECT TO THE ABOVE PROVISO, THE PARTIES HEREBY WAIVE ANY RIGHTS THEY MAY HAVE TO TRIAL BY JURY IN REGARD TO ARBITRABLE CLAIMS. THE PARTIES FURTHER WAIVE ANY RIGHTS THEY MAY HAVE TO PURSUE OR PARTICIPATE IN A CLASS OR COLLECTIVE ACTION PERTAINING TO ANY CLAIMS BETWEEN YOU AND THE COMPANY.

This agreement to arbitrate does not restrict your right to file administrative claims you may bring before any government agency where, as a matter of law, the parties may not restrict the employee's ability to file such claims (including, but not limited to, the National Labor Relations Board, the Equal Employment Opportunity Commission and the Department of Labor). However, the parties agree that, to the fullest extent permitted by law, arbitration shall be the exclusive remedy for the subject matter of such administrative claims. The arbitration shall be conducted in San Francisco, CA through JAMS before a single neutral arbitrator, in accordance with the JAMS employment arbitration rules then in effect. The JAMS rules may be found and reviewed at http://www.jamsadr.com/rules-employment-arbitration. If you are unable to access these rules, please let me know and I will provide you with a hardcopy. The arbitrator shall issue a written decision that contains the essential findings and conclusions on which the decision is based. If, for any reason, any term of this Arbitration and Class Action Waiver provision is held to be invalid or unenforceable, all other valid terms and conditions herein shall be severable in nature, and remain fully enforceable.

18. **Background Check**. This offer is contingent upon a satisfactory verification of criminal, education, driving and/or employment background. This offer can be rescinded based upon data received in the verification.

19. **Entire Agreement**. This offer, once accepted, constitutes the entire agreement between you and the Company with respect to the subject matter hereof and supersedes all prior offers, negotiations and agreements, if any, whether written or oral, relating to such subject matter. You acknowledge that neither the Company nor its agents have made any promise, representation or warranty whatsoever, either express or implied, written or oral, which is not contained in this agreement for the purpose of inducing you to execute the agreement, and you acknowledge that you have executed this agreement in reliance only upon such promises, representations and warranties as are contained herein.

20. **Acceptance**. This offer will remain open until 22 January 2021. If you decide to accept our offer, and we hope you will, please sign the enclosed copy of this letter in the space indicated and return it to me. Your signature will acknowledge that you have read and understood and agreed to the terms and conditions of this offer letter and the attached documents, if any. Should you have anything else that you wish to discuss, please do not hesitate to call us.

We look forward to the opportunity to welcome you to the Company.

Very truly yours,

/s/ Brian C. Thomas, CEO
Brian C. Thomas, CEO
Metagenomi, Inc.

I have read and understood this offer letter and hereby acknowledge, accept and agree to the terms as set forth above and further acknowledge that no other commitments were made to me as part of my employment offer except as specifically set forth herein.

/s/ Jian Irish
Jian Irish

1/19/2021
Date signed

APPENDIX A

Responsibilities of Chief Operations Officer include, but are not limited to:

- Work with CEO to develop an operations plan
- Work with CEO and other C-suite executives to guide the growth of the company
- Support BD discussions with potential partners
- Oversee the production of high quality reagents
- Oversee MTAs to ensure Metagenomi is a successful collaborator
- Support partnerships as they come online
- Support Team building/recruitment/hiring for both ex vivo and in vivo teams
- Oversee restructuring of existing lab teams to scale production ability
- Support strategic and planning discussions for growth and for spinout creation with MG assets
- Lead all operations staff
- Oversee the design and building of 1545 Park Ave into a functioning, high-quality lab
- Oversee the design and building of a GMP suite in 1545 park Ave
- Support CMC scaleup for IND-ready materials
- Key goal: Have clinical-ready reagents by year end, 2021

January 20, 2023

Sarah Noonberg

Dear Sarah:

I am very pleased to confirm our offer to you of employment with Metagenomi, Inc. (the "***Company***"). The terms of our offer and the benefits currently provided by the Company are as follows:

1. Position and Start Date. You are being offered the position of Chief Medical Officer, reporting to Brian Thomas. This is an exempt position based in our Emeryville office. Your anticipated start date will be January 30, 2023.

2. Responsibilities. You will have the duties and responsibilities commensurate with the duties and responsibilities customarily associated with the position of Chief Medical Officer, and such other duties and responsibilities as may be prescribed by the Chief Executive Officer or as determined by the Board (as defined below). These duties may include the responsibilities outlined in Appendix A.

You will be expected to devote all of your business time and attention to this position, but as an exempt employee, you must work such hours as may be required by the nature of your work and will not be eligible for overtime pay. You shall devote all of your business time, attention and energy to the Company and shall not, during the term of your employment, be actively engaged in any managerial or employment capacity in any other business activity for gain, profit or other pecuniary advantage without the written consent of the Company.

3. Base Salary. Your starting salary will be $420,000.00 per year, payable in accordance with the Company's standard payroll schedule, and will be subject to periodic review pursuant to the Company's employee compensation policies in effect from time to time.

4. Annual Incentive Bonus. You will be eligible for an incentive bonus based on the achievement of performance objectives as determined by the Board (as defined below) in its sole discretion. Your discretionary bonus target will be 40% of your annual base salary. Any bonus for a fiscal year will be paid within 2½ months after the close of that fiscal year, but only if you are still employed by the Company at the time of payment. The determinations of the Board with respect to your bonus will be final and binding.

5. Benefits. In addition, you will be eligible to participate in regular health insurance, retirement plan, and other employee benefit plans established by the Company for its employees from time to time.

The Company reserves the right to change or otherwise modify, in its sole discretion, the preceding terms of employment.

6. Equity. We will recommend to the Board of Managers (the "***Board***") of Metagenomi Technologies, LLC, the parent entity of the Company (the "***Parent***"), that you be granted 200,000 Common Units of the Parent (the "***Equity Grant***") in the form of profits interests pursuant to the

terms of Parent's 2019 Equity Incentive Plan (the "***Plan***"). The Equity Grant will vest over a period of four years, with 25% of the Equity Grant vesting on the one-year anniversary of your start date, and the remainder vesting in 36 equal monthly installments thereafter, so long as you continue to provide services to the Company or Parent. The grant of such Equity Grant by the Parent is subject to the Board's approval and this promise to recommend such approval is not a promise of compensation and is not intended to create any obligation on the part of the Company. Further details on the Plan and your Equity Grant will be provided upon approval of such grant by the Board.

7. Protection of Confidential and Proprietary Information. As an employee of the Company, you will have access to certain confidential information of the Company and you may, during the course of your employment, develop certain information or inventions that will be the property of the Company. To protect the Company's interests, as a condition of employment, you must sign and abide by the Company's standard Employee Invention Assignment and Confidentiality Agreement.

8. No Breach of Obligations to Prior Employers. We wish to impress upon you that we do not want you to, and we hereby direct you not to, bring with you any confidential or proprietary material of any former employer or violate any other obligations you may have to any former employer. You represent that your signing of this offer letter, agreement(s) concerning profits interests granted to you, if any, under the Plan and the Company's Employee Invention Assignment and Confidentiality Agreement and your commencement of employment with the Company will not violate any agreement currently in place between yourself and current or past employers.

9. No Competition During Employment. During the period that you render services to the Company, you agree to not engage in any employment, business or activity that is in any way competitive with the business or proposed business of the Company. You will disclose to the Company in writing any other gainful employment, business or activity that you are currently associated with or participate in that competes with the Company. You will not assist any other person or organization in competing with the Company or in preparing to engage in competition with the business or proposed business of the Company.

10. At Will Employment. Employment with the Company is for no specific period of time. Should you accept our offer, you will be an at-will employee of the Company, which means the employment relationship can be terminated by either of us for any reason, at any time, with or without prior notice and with or without cause. Any statements or representations to the contrary (and, indeed, any statements contradicting any provision in this letter) are superseded by this agreement. Further, your participation in any stock option or benefit program is not to be regarded as assuring you of continuing employment for any particular period of time. Although your job duties, title, compensation and benefits, as well as the Company's personnel policies and practices, may change from time to time, the "at-will" nature of your employment may be changed only in an express, written employment agreement signed by you and a duly authorized officer of the Company (other than you).

11. Tax Matters. All forms of compensation referred to in this agreement are subject to reduction to reflect applicable withholding and payroll taxes and other deductions required by law.

12. Authorization to Work. Please note that because of employer regulations adopted in the Immigration Reform and Control Act of 1986, within three (3) business days of starting your new position you will need to present documentation demonstrating that you have authorization to work in the United States. If you have questions about this requirement, which applies to U.S. citizens and non-U.S. citizens alike, you may contact our personnel office.

13. Arbitration and Class Action Waiver. You and the Company agree to submit to mandatory binding arbitration any and all claims arising out of or related to your employment with the Company and the termination thereof, including, but not limited to, claims for unpaid wages, wrongful termination, torts, stock or stock options or other ownership interest in the Company, and/or discrimination (including harassment) based upon any federal, state or local ordinance, statute, regulation or constitutional provision except that each party may, at its, his or her option, seek injunctive relief in court related to the improper use, disclosure or misappropriation of a party's private, proprietary, confidential or trade secret information (collectively, "Arbitrable Claims"). Further, to the fullest extent permitted by law, you and the Company agree that no class or collective actions can be asserted in arbitration or otherwise. All claims, whether in arbitration or otherwise, must be brought solely in your or the Company's individual capacity, and not as a plaintiff or class member in any purported class or collective proceeding. Nothing in this Arbitration and Class Action Waiver section, however, restricts your right, if any, to file in court a representative action under applicable law, including California Labor Code Sections 2698, et seq.

SUBJECT TO THE ABOVE PROVISO, THE PARTIES HEREBY WAIVE ANY RIGHTS THEY MAY HAVE TO TRIAL BY JURY IN REGARD TO ARBITRABLE CLAIMS. THE PARTIES FURTHER WAIVE ANY RIGHTS THEY MAY HAVE TO PURSUE OR PARTICIPATE IN A CLASS OR COLLECTIVE ACTION PERTAINING TO ANY CLAIMS BETWEEN YOU AND THE COMPANY.

This agreement to arbitrate does not restrict your right to file administrative claims you may bring before any government agency where, as a matter of law, the parties may not restrict the employee's ability to file such claims (including, but not limited to, the National Labor Relations Board, the Equal Employment Opportunity Commission and the Department of Labor). However, the parties agree that, to the fullest extent permitted by law, arbitration shall be the exclusive remedy for the subject matter of such administrative claims. The arbitration shall be conducted in San Francisco, CA through JAMS before a single neutral arbitrator, in accordance with the JAMS employment arbitration rules then in effect. The JAMS rules may be found and reviewed at http://www.jamsadr.com/rules-employment-arbitration. If you are unable to access these rules, please let me know and I will provide you with a hardcopy. The arbitrator shall issue a written decision that contains the essential findings and conclusions on which the decision is based. If, for any reason, any term of this Arbitration and Class Action Waiver provision is held to be invalid or unenforceable, all other valid terms and conditions herein shall be severable in nature, and remain fully enforceable.

14. Background Check. This offer is contingent upon a satisfactory verification of criminal, education, driving and/or employment background. This offer can be rescinded based upon data received in the verification.

15. Entire Agreement. This offer, once accepted, constitutes the entire agreement between you and the Company with respect to the subject matter hereof and supersedes all prior offers, negotiations and agreements, if any, whether written or oral, relating to such subject matter. You acknowledge that neither the Company nor its agents have made any promise, representation or warranty whatsoever, either express or implied, written or oral, which is not contained in this agreement for the purpose of inducing you to execute the agreement, and you acknowledge that you have executed this agreement in reliance only upon such promises, representations and warranties as are contained herein.

16. Acceptance. This offer will remain open until January 23, 2023. If you decide to accept our offer, and I hope you will, please sign the enclosed copy of this letter in the space indicated and return it to me. Your signature will acknowledge that you have read and understood and agreed to the terms and conditions of this offer letter and the attached documents, if any. Should you have anything else that you wish to discuss, please do not hesitate to call me. We look forward to the opportunity to welcome you to the Company.

Very truly yours,

Brian C. Thomas, CEO

I have read and understood this offer letter and hereby acknowledge, accept and agree to the terms as set forth above and further acknowledge that no other commitments were made to me as part of my employment offer except as specifically set forth herein.

Offer Letter Acceptance

I have read and accept this offer of employment:

/s/ Sarah Noonberg	23 January 2023
Sarah Noonberg	Date

CONFIDENTIALITY, NON-INTERFERENCE, AND ASSIGNMENT OF INVENTIONS AGREEMENT

THIS CONFIDENTIALITY, NON-INTERFERENCE, AND ASSIGNMENT OF INVENTIONS AGREEMENT (this "***Agreement***") is made and entered into as of the date of the last signature below ("***Effective Date***"), by and between **METAGENOMI, INC.** ("***Company***"), having a principal place of business at 5959 Horton Avenue, Emeryville, CA 94608, and _____(or "***Employee***"), having a residence at the address listed in the signature block below.

1. Consideration**.** As a condition of their employment with Metagenomi Inc., its subsidiaries, affiliates, successors or assigns (together, the "Company"), and in consideration of Employee's receipt of the compensation now and hereinafter paid to them by the Company, Employee agrees to the terms set forth in this Agreement.

2. At-Will Employment**.** EMPLOYEE UNDERSTANDS AND ACKNOWLEDGES THAT THEIR EMPLOYMENT WITH THE COMPANY IS FOR AN UNSPECIFIED DURATION AND CONSTITUTES "AT WILL" EMPLOYMENT. EMPLOYEE ALSO UNDERSTANDS THAT ANY REPRESENTATION TO THE CONTRARY IS UNAUTHORIZED AND NOT VALID UNLESS IN WRITING AND SIGNED BY THE CEO OR PRESIDENT AND COO OF THE COMPANY. ACCORDINGLY, EMPLOYEE ACKNOWLEDGES THAT THEIR EMPLOYMENT RELATIONSHIP MAY BE TERMINATED AT ANY TIME, WITH OR WITHOUT GOOD CAUSE OR FOR ANY OR NO CAUSE, AT EMPLOYEE'S OPTION OR THE OPTION OF THE COMPANY, WITH OR WITHOUT NOTICE.

3. Confidential Information.

3.1 Company Confidential Information. Employee acknowledges that during the course of their employment, Employee will have access to information about Metagenomi, Inc., and its subsidiaries and affiliates, including the Company (collectively, the "Company Group"), and that their employment with the Company will bring Employee into close contact with confidential and proprietary information of the Company Group. In recognition of the foregoing, Employee agrees, that at all times during the term of their employment with the Company and thereafter, to hold in confidence and not to use, except for the benefit of the Company Group, or to disclose to any person without written authorization of the Company, any Confidential Information that Employee obtains or creates. Confidential Information includes any information that has been or may be disclosed to Employee by or on behalf of Company in writing, orally, electronically, or by inspection of facilities or tangible objects, including, without limitation, documents, prototypes, compounds, protein sequences, chemical structures, samples, formulations, technical data, trade secrets, know how, research, product plans, services, customers, markets, software, assays, discoveries, inventions, ideas, techniques, assays, processes, designs, drawings, marketing plans, statements of financial condition, or equipment, as well as any information created using the foregoing information. Notwithstanding the foregoing, Confidential Information shall not include any information that Employee can establish (i) was publicly known or generally available to the public prior to disclosure under this Agreement; (ii) becomes publicly known or generally available to the public after disclosure to Employee hereunder through no action or inaction of Employee; (iii) was, at the time of

disclosure to Employee hereunder, already in the possession of Employee, without confidentiality restrictions, as shown by Employee's contemporaneous written records; (iv) is independently developed by Employee without use of or reference to Confidential Information; or (v) is obtained without confidentiality restrictions by the Employee from a third party (not acting on behalf of Company) without a breach of any obligations of confidentiality.

3.2 Returning Company Documents. Employee agrees that, at the time of leaving the employ of the Company, Employee will deliver to the Company (and will not keep in their possession, recreate or deliver to anyone else) any and all devices, records, data, notes, reports, proposals, lists, correspondence, specifications, drawings blueprints, sketches, materials, equipment, other documents or property, or reproductions of any aforementioned items developed by Employee pursuant to their employment with the Company or otherwise belonging to the Company, its successors or assigns.

3.3 Former Employers

(a) Former Employer Information. Employee represents that their performance of all of the terms of this Agreement as an employee of the Company has not breached and will not reach any agreement to keep in confidence proprietary information, knowledge, or data acquired by Employee in confidence or trust prior or subsequent to the commencement of Employee's employment with the Company, and Employee will not disclose to any member of the Company Group, or induced any member of the Company Group to use, any developments, or confidential or proprietary information or material Employee may have obtained in connection with employment with any prior employer in violation of a confidentiality agreement, non-disclosure agreement, or similar agreement. Employee further represents and agrees that if they have a signed confidentiality agreement with any former employer or entity, they will comply with the terms of any such agreement to the extent such terms are lawful under applicable law.

(b) Indemnification. Employee represents that they have retuned all property and confidential information belonging to all prior employers. In the event that the Company or ay of its directors, officers, shareholders or agents (collectively, "Indemnitees") is sued based on any obligation or agreement to which Employee is a party or is bound, Employee agrees to fully indemnify the Indemnitees for all verdicts, judgments, settlement and other losses incurred by the Indemnitee in the event that it is the subject of any legal action resulting from any breach of Employee's obligations under this Agreement, as well as any reasonable attorneys' fees and costs if the plaintiff is the prevailing party in such action.

3.4 Third-Party Information. Employee recognizes that the Company may have received and, in the future, may receive from third parties associated with the Company their confidential or proprietary information, such as their habits and practices, their technology requirements and information related to the business conducted between the Company and such parties. Employee agrees at all times during their employment with the Company and thereafter, to hold in the strictest confidence, and not to disclose or use any such confidential information, except as necessary in carrying out their work for the Company consistent with the Company's agreement with such parties. Employee understands that their unauthorized use or disclosure of such third party confidential information during their employment will lead to disciplinary action, up to and including termination and legal action by the Company.

4. Inventions.

4.1 Inventions Retained and Licensed. Employee has attached hereto, as **Schedule 1**, a list describing all inventions, original works of authorship, developments, improvements, and trade secrets which were made by Employee prior to their employment with the Company (collectively referred to as "Prior Inventions"), which belong to Employee, which relate to the Company's business, products or research and development, and which are not assigned to the Company hereunder; or, if no such list is attached, Employee represents that there are no such Prior Inventions. If in the course of their employment with the Company, Employee incorporates into a Company product, process or service a Prior Invention owned by Employee or in which they have an interest, Employee hereby grants to the Company a nonexclusive, royalty-free, fully paid-up, irrevocable, perpetual, worldwide license to make, have made, modify, use and sell such Prior Invention as part of or in connection with such product, process or service, and to practice any method related thereto.

4.2 Assignment of Inventions. Employee will assign and does hereby irrevocably assign to the Company, or its designee, all their right, title, and interest in and to any and all copyrights, inventions, original works of authorship, developments, concepts, improvements, designs, discoveries, ideas, trademarks or trade secrets, whether or not patentable or registrable under copyright or similar laws, which Employee may solely or jointly conceive or develop or reduce to practice, or cause to be conceived or developed or reduced to practice, during the period of time Employee is in the employ of the Company (collectively referred to as "Inventions"), except as provided in Section 4.4 below. Employee agrees to promptly make full written disclosure to the Company of any Inventions. Employee further acknowledges that all original works of authorship which are made by them (solely or jointly with others) within the scope of and during the period of their employment with the Company and which are protectable by copyright are "works made for hire," as that term is defined in the United States Copyright Act. Employee understands that no royalty will be due Employee as a result of the Company's efforts to commercialize or market any such invention.

4.3 Patent and Copyright Registrations. Employee agrees to assist the Company, or its designee, at the Company's expense, in every proper way to secure the Company's rights in the Inventions and any copyrights, patents, mask work rights or other intellectual property rights relating thereto in any and all countries, including the disclosure to the Company of all pertinent information and data with respect thereto, the execution of all applications, specifications, oaths, assignments and all other instruments which the Company shall deem necessary in order to apply for and obtain such rights and in order to assign and convey to the Company, its successors, assigns, and nominees the sole and exclusive rights, title and interest in and to such Inventions, and any copyrights, patents, mask work rights or other intellectual property rights relating thereto. Employee further agrees that their obligation to execute or cause to be executed, when it is in their power to do so, any such instrument or papers shall continue after the termination of this Agreement. If the Company is unable because of Employee's mental or physical incapacity or for any other reason to secure Employee's signature to apply for or to pursue any application for any United States or foreign patents or copyright

registrations covering Inventions or original works of authorship assigned to the Company as above, then Employee hereby irrevocably designates and appoints the Company and its duly authorized officers and agents as Employee's agent and attorney in fact, to act for and on Employee's behalf and stead to execute and file any such applications and to do all other lawfully permitted acts to further the prosecution and issuance of letters patent or copyright registrations thereon with the same legal force and effect as if executed by Employee.

4.4 Exception to Assignments. Employee understands that the provisions of this Agreement requiring assignment of Inventions to the Company do not apply to any invention which qualifies fully under the provisions of California Labor Code Section 2870 (attached hereto as **Schedule 2**). Employee will advise the Company promptly in writing of any inventions that Employee believes meet the criteria in California Labor Code Section 2870 and are not otherwise disclosed on **Schedule 1**.

5. Restrictive Covenants.

5.1 Non-Competition. During of their employment with the Company, Employee shall not, directly or indirectly, as an employee, sole proprietor, partner, stockholder, director, officer principal or executive engage in any business activities in which the Company is engaged.

5.2 Non-Solicitation of Employees. Employee agrees that for a period of twelve (12) months immediately following the termination of their employment relationship with the Company for any reason, whether with or without cause, Employee shall not either directly or indirectly solicit, induce, recruit or encourage any of the Company's employees to leave their employment, or take away such employees, or attempt to solicit, induce, recruit, encourage or take away employees of the Company, either for Employee or for any other person or entity.

5.3 Non-Disparagement. Other than in connection with filing a charge or participating in any investigation or proceeding conducted by the Equal Employment Opportunity Commission, the National Labor Relations Board, or other comparable federal, state, or local governmental agency or commission, under a valid subpoena or court order to do so, or when constituting protected activity described in Section 5.4 below, Employee agrees that during the term of their employment and at all times thereafter, they will not make any disparaging or defamatory comments regarding any member of the Company Group or their respective current or former officers, directors, shareholders or employees. Notwithstanding the foregoing, Employee shall not be restrained from making any disclosures mandated by applicable law, regulation or order of a court of government agency.

5.4 Protected Activity. Nothing in this Agreement shall be construed to prohibit Employee from engaging in any protected or concerted activity, or filing a complaint or charge with, or participating in any investigation or proceeding conducted by, or providing information to or otherwise assisting the Equal Opportunity Employment Commission, Department of Fair Employment and Housing, National Labor Relations Board, the Occupational Safety and Health Administration, the Securities and Exchange Commission or any other federal, state, or local governmental agency or commission ("Government Agencies"). By signing this Agreement, Employee agrees to waive their right to recover individual relief based

on any claims asserted in such a complaint or charge; provided, however, that nothing in this Agreement limits Employee's right to receive an award for information they provide to any Government Agencies that are authorized to provide monetary or other awards to eligible individuals who come forward with information that leads to an agency enforcement action. Employee further understand that this Agreement does not limit their ability to communicate with any Government Agencies or otherwise participate in any investigation or proceeding that may be conducted by any of the Government Agencies, including providing documents or other information, without notice to the Company. Should any charge or action be filed on Employee's behalf involving claims released by this Agreement, Employee agrees to promptly inform the relevant agency, court, or arbitral forum that any individual claims they might otherwise have had have been released.

6. Disclosure and Notification. For so long as this Agreement is in effect, Employee agrees that they will disclose the existence of this Agreement to any prospective employer, partner, co-venturer, investor or lender prior to entering into an employment, partnership or other business relationship with such person or entity. In the event that Employee leaves the Company, Employee hereby grants consent to notification by the Company to Employee's new employer about Employee's obligations under this Agreement.

7. General Provisions.

7.1 Severability; Blue Pencil. Each of the rights set forth in this Agreement shall be independent of the others and shall be in addition to, and not in lieu of any other rights and remedies available to any member of the Company Group at law or in equity. If any of the provisions of this Agreement or any part of any of them is hereinafter construed or adjudicated to be invalid or unenforceable, the same shall not affect the remainder of this Agreement, which shall be given full effect without regard to the invalid portions. If any of the covenants contained herein are held to be invalid or unenforceable because of the duration of such provisions or the area or scope covered thereby, Employee agrees that the court making such determination shall have the power to reduce the duration, scope, and/or area of such provision to the maximum and/or broadest duration or scope permissible by law, and in its reduced form said provision shall then be enforceable.

7.2 Injunctive Relief. Employee expressly acknowledges that any breach or threatened breach of any of the terms or conditions set forth in this Agreement may result in substantial, continuing and irreparable injury to members of the Company Group. Therefore, Employee agrees that in addition to any other remedy that may be available, the Company shall be entitled to injunctive relief, specific performance, or other equitable relief by a court of competent jurisdiction in the event of any breach or threaten to breach of this Agreement without the necessity of proving irreparable harm or injury as a result of such a breach or threatened breach. Notwithstanding any other provision to the contrary, Employee acknowledges and agrees that the non-competition or non-interference periods, as applicable, shall be tolled during any period of violation of any of such covenants and during any other period required for litigation during which the Company seeks to enforce such covenants against Employee if it is ultimately determined that Employee was in breach of such covenants.

7.3 Cooperation. Employee agrees that, following any termination of their employment, Employee will continue to provide reasonable cooperation to the Company and its counsel in connection with any investigation, administrative proceeding, or litigation relating to any matter that occurred during Employee's employment and which they were involved in or of which they had knowledge. As a condition of such cooperation, the Company shall reimburse Employee for reasonable out-of-pocket expenses incurred at the request of the Company with respect to such compliance. Employee also agrees that, in the event that Employee is subpoenaed by any person or entity to give testimony or provide documents that in anyway related to Employee's employment by the Company, they will give prompt notice of such request to the Company and will make no disclosure until Company has had reasonable opportunity to contest the right of the request in person or entity to such disclosure.

7.4 Dispute Resolution; Governing Law. Any dispute regarding the interpretation or enforcement of this Agreement shall be subject to the governing law and arbitration agreement and/or dispute resolution provisions set forth in Employee's employment offer letter agreement in which this Agreement is incorporated by reference.

7.5 Successors and Assigns. This Agreement will be binding upon Employee's heirs, executors, administrators, and other legal representatives and will be for the benefit of the Company, its successors, and its assigns. Employee expressly acknowledges and agrees that this Agreement may be assigned by the Company without Employee's consent to any other member of the Company Group as well as any purchaser of all or substantially all of the assets or stock of the Company, whether by purchase, merger, or other similar corporate transaction

7.6 Survival. The provisions of this Agreement shall survive the termination of Employee's employment with the Company, or the assignment of this Agreement by the Company to any successor in interest or other assignee.

Employee has executed this Agreement on the date set forth below.

Date: _____

_____
Signature

_____
Name of Employee

Employee Address:_____

_____

Acknowledged and agreed:

Metagenomi, Inc.

_____
Signature

_____
Name

_____
Title

Schedule 1

LIST OF PRIOR INVENTIONS
AND ORIGINAL WORKS OF AUTHORSHIP

Title	Date	Identifying Number or Brief Description

___ No inventions or improvements

___ Additional Sheets Attached

Signature of Employee: _____

Print Name of Employee:

Date: _____

Schedule 2

CALIFORNIA LABOR CODE SECTION 2870
INVENTION ON OWN TIME-EXEMPTION FROM AGREEMENT

"(a) Any provision in an employment agreement which provides that an employee shall assign, or offer to assign, any of his or her rights in an invention to his or her employer shall not apply to an invention that the employee developed entirely on his or her own time without using the employer's equipment, supplies, facilities, or trade secret information except for those inventions that either:

(1) Relate at the time of conception or reduction to practice of the invention to the employer's business, or actual or demonstrably anticipated research or development of the employer; or

(2) Result from any work performed by the employee for the employer.

(b) To the extent a provision in an employment agreement purports to require an employee to assign an invention otherwise excluded from being required to be assigned under subdivision (a), the provision is against the public policy of this state and is unenforceable."

Exhibit 10.17

August 19, 2021

Willard Dere

Re: Independent Manager Offer Letter

Dear Willard,

Metagenomi Technologies, LLC, a Delaware Limited Liability Company (the "***Company***" or "***we***" or "***our***"), is pleased to offer you a position as a member of its Board of Managers (the "***Board***"). We believe your background and experience will be a significant asset to the Company and we look forward to your participation on the Board. Should you choose to accept this position as a member of the Board, this letter agreement (the "***Agreement***") shall constitute an agreement between you and the Company and contains all the terms and conditions relating to the services you agree to provide to the Company. The terms of our offer are as follows:

1. **Term**. This Agreement is effective as of August 19, 2021. Your term as independent manager shall continue for a period of three (3) years subject to the provisions in Paragraph 9 below.

2. **Services**. You shall render services (a) as a member of the Board; and (b) a member of the committees of the Board to which you are elected (hereinafter, your "***Duties***"). During the term of this Agreement, you shall attend and participate in such number of meetings of the Board and of the Committee of which you may become a member as regularly or specially called. You may attend and participate at each such meeting, via teleconference, video conference or in person. You shall consult with the other members of the Board and committee (if any) regularly and as necessary via telephone, electronic mail or other forms of correspondence.

3. **Services for others**. You shall be free to represent or perform services for other persons during the term of this Agreement. You agree, however, that you do not presently perform and do not intend to perform, during the term of this Agreement, similar Duties, consulting, or other services for companies whose businesses are or would be, in any way, competitive with the Company (except for companies previously disclosed by you to the Company in writing). Should you propose to perform similar Duties, consulting, or other services for any such company, you agree to notify the Company in writing in advance (specifying the name of the organization for whom you propose to perform such services) and to provide information to the Company sufficient to allow it to determine if the performance of such services would conflict with areas of interest to the Company.

4. **Compensation**.

a. As compensation for your services to the Company, you will receive upon execution of this Agreement cash compensation of $30,000 for each calendar year of service under this Agreement on a pro-rated basis.

b. We will also recommend to the Board that you be granted 94,856 Common Units of the Company (the "***Equity Grant***") in the form of profits interests pursuant to the terms of the Company's 2019 Equity Incentive Plan (the "***Plan***"). The Equity Grant will vest over a period of three years in 36 equal monthly installments so long as you continue to provide services to the Company or its affiliates. The grant of such Equity Grant by the Company is subject to the Board's approval and this promise to recommend such approval is not a promise of compensation and is not intended to create any obligation on the part of the Company. Further details on the Plan and your Equity Grant will be provided upon approval of such grant by the Board.

c. You shall be reimbursed for reasonable expenses incurred by you in connection with the performance of your Duties (including travel expenses for in-person meetings).

5. **D&O Insurance Policy**. During the term under this Agreement, the Company shall include you as an insured under its officers and directors insurance policy.

6. **No Assignment**. Because of the personal nature of the services to be rendered by you, this Agreement may not be assigned by you without the prior written consent of the Company.

7. **Confidential Information; Non-Disclosure**. In consideration of your access to certain Confidential Information (as defined below) of the Company and in connection with your business relationship with the Company, you hereby represent and agree as follows:

a. **Definition.** Confidential Information as used in this Agreement shall mean any and all information of the Company, whether in writing or not, including but not limited to, all data, compilations, summaries, programs, devices, strategies, or methods concerning or related to: (a) the Company's finances, financial condition, results of operations, employee relations, and any other data or information relating to internal affairs and policies of the Company; (b) the Company's marketing and business plans, future plans, concepts, competitive strategies, pricing, margins, designs, models, apparatus; (c) customer and suppliers lists and the identities and business preferences of the Company's actual and prospective customers and suppliers; (d) the terms and conditions of purchases, sales and offers regarding potential or actual projects contemplated or evaluated hereunder; (e) the terms, conditions, and current status of the Company's agreements and relationships with any customer, supplier, or business associate, affiliate or partner whether or not in writing; (f) the Company's trade secrets as defined by state and federal law, and/or as defined by the jurisdictions, whether foreign or domestic, in which the Company operates; (g) the Company's pricing structure, including its costs, margins and mark-ups; (h) any other information and knowledge with respect to all projects or plans of the Company in any stage of development or evaluation by the Company; (i) any communication between the Company and its officers, directors, employees, consultants and attorneys; and (j) any other matter or thing, whether or not recorded on any medium by Company, from which Company may derive actual or potential economic value by virtue of it not being generally known to other persons or entities who might obtain any value from its disclosure or use or that gives Company an opportunity to obtain an advantage over its competitors who do not know of or use the same.

b. **Exclusions**. Confidential Information does not include information that: (1) is or becomes part of the public domain other than as a result of disclosure by you; (2) becomes available to you on a non-confidential basis from a source other than the Company, provided that the source is not bound with respect to that information by a confidentiality agreement with the Company or otherwise prohibited from transmitting that information by a contractual, legal or other obligation; (3) is compelled to be disclosed by a public authority; or (4) can be proven by you to have been in your possession prior to disclosure of the same by the Company. You shall have the burden of proving the applicability of any of the above exceptions.

c. **Documents**. You agree that, without the express written consent of the Company, you will not remove from the Company's premises, any notes, formulae, programs, data, records, machines or any other documents or items which in any manner contain or constitute Confidential Information, nor will you make reproductions or copies of the same. You shall promptly return any such documents or items, along with any reproductions or copies to the Company upon the Company's demand, upon termination of this Agreement, or upon your termination or Resignation (as defined in Paragraph 9 herein).

d. **Confidentiality**. You agree that you will hold in trust and confidence all Confidential Information and will not disclose to others, directly or indirectly, any Confidential Information or anything relating to such information without the prior written consent of the Company, except as may be necessary in the course of your business relationship with the Company. You further agree that you will not use any Confidential Information without the prior written consent of the Company, except as may be necessary in the course of your business relationship with the Company, and that the provisions of this paragraph (d) shall survive termination of this Agreement. Notwithstanding the foregoing, you may disclose Confidential Information to your legal counsel and accounting advisors who have a need to know such information for accounting or tax purposes and who agree to be bound by the provisions of this paragraph (d).

e. **Ownership.** You agree that the Company shall own all right, title and interest (including patent rights, copyrights, trade secret rights, mask work rights, trademark rights, and all other intellectual and industrial property rights of any sort throughout the world) relating to any and all inventions (whether or not patentable), works of authorship, mask works, designations, designs, know-how, ideas and information made or conceived or reduced to practice, in whole or in part, by you during the term of this Agreement and that arise out of your Duties (collectively, "***Inventions***") and you will promptly disclose and provide all Inventions to the Company. You agree to assist the Company, at its expense, to further evidence, record and perfect such assignments, and to perfect, obtain, maintain, enforce, and defend any rights assigned.

8. **Non-Solicitation**. During the term of your appointment, you shall not solicit for employment any employee of the Company with whom you have had contact due to your appointment.

9. **Termination and Resignation**. Your membership on the Board may be terminated for any or no reason by a vote of the members holding a majority of the Company's preferred units. You may also terminate your membership on the Board or on a committee for any or no reason by delivering your written notice of resignation to the Company ("***Resignation***"), and such Resignation shall be effective upon the time specified therein or, if no time is specified, upon receipt of the notice of resignation by the Company. Upon the effective date of the termination or Resignation, your right to compensation hereunder will terminate subject to the Company's obligations to pay you any compensation that you have already earned and to reimburse you for approved expenses already incurred in connection with your performance of your Duties as of the effective date of such termination or Resignation.

10. **Governing Law**. This Agreement and all matters relating to the meaning, validity or enforceability thereof and the performance of services hereunder shall be governed by the laws of the State of California.

11. **Entire Agreement; Amendment; Waiver; Counterparts.** This Agreement expresses the entire understanding with respect to the subject matter hereof and supersedes and terminates any prior oral or written agreements with respect to the subject matter hereof. Any term of this Agreement may be amended and observance of any term of this Agreement may be waived only with the written consent of the parties hereto. Waiver of any term or condition of this Agreement by any party shall not be construed as a waiver of any subsequent breach or failure of the same term or condition or waiver of any other term or condition of this Agreement. The failure of any party at any time to require performance by any other party of any provision of this Agreement shall not affect the right of any such party to require future performance of such provision or any other provision of this Agreement. This Agreement may be executed in separate counterparts each of which will be an original and all of which taken together will constitute one and the same agreement, and may be executed using facsimiles of signatures, and a facsimile of a signature shall be deemed to be the same, and equally enforceable, as an original of such signature.

12. **Indemnification**. The Company shall, to the maximum extent provided under applicable law, indemnify and hold you harmless from and against any expenses, including reasonable attorney's fees, judgments, fines, settlements and other legally permissible amounts ("***Losses***"), incurred in connection with any proceeding arising out of, or related to, your performance of your Duties, other than any such Losses incurred as a result of your negligence or misconduct. The Company shall advance to you any expenses, including reasonable attorneys' fees and costs of settlement, incurred in defending any such proceeding to the maximum extent permitted by applicable law. Such costs and expenses incurred by you in defense of any such proceeding shall be paid by the Company in advance of the final disposition of such proceeding promptly upon receipt by the Company of (a) written request for payment; (b) appropriate documentation evidencing the incurrence, amount and nature of the costs and expenses for which payment is being sought; and (c) an undertaking adequate under applicable law made by or on your behalf to repay the amounts so advanced if it shall ultimately be determined pursuant to any non-appealable judgment or settlement that you are not entitled to be indemnified by the Company.

13. **Not an employment agreement**. This Agreement is not an employment agreement and shall not be construed or interpreted to create any right for you to continue employment with the Company.

14. **Acknowledgement**. You accept this Agreement subject to all the terms and provisions of this Agreement. You agree to accept as binding, conclusive, and final all decisions or interpretations of the Board of Managers of the Company of any questions arising under this Agreement.

We look forward to the opportunity to welcome you to the Company.

Very truly yours,

/s/ Brian C. Thomas

Brian C. Thomas
Metagenomi Technologies, LLC

I have read and understood this offer letter and hereby acknowledge, accept and agree to the terms as set forth above and further acknowledge that no other commitments were made to me as part of my offer except as specifically set forth herein.

/s/ Willard Dere	8/20/2021
Willard Dere	Date signed:

Exhibit 16.1

KPMG LLP
Suite 1400
55 Second Street
San Francisco, CA 94105

August 3, 2023

Securities and Exchange Commission
Washington, D.C. 20549

Ladies and Gentlemen:

We were previously engaged as principal accountants to audit the consolidated financial statements of Metagenomi Technologies, LLC., (the "Company") as of and for the year ended December 31, 2020. Since the date of our appointment, we never issued an audit report on the Company's consolidated financial statements. On April 28, 2022, we were dismissed.

We have read the statements made by the Company under the heading "Changes in independent registered public accounting firm" included in its Form S-1 dated August 3, 2023, and we agree with such statements, except that we are not in a position to agree or disagree with the Company's statement in the third paragraph relating that the Audit Committee of the board of directors dismissed us, or any of the Company's statements in the seventh and eight paragraphs relating to the engagement of PricewaterhouseCoopers LLP and any consultation with them during the Company's most recent two fiscal years and subsequent interim period.

Very truly yours,

/s/ KPMG LLP

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the use in this Registration Statement on Form S-1 of Metagenomi Technologies, LLC of our report dated August 3, 2023 relating to the financial statements of Metagenomi Technologies, LLC, which appears in this Registration Statement. We also consent to the reference to us under the heading “Experts” in such Registration Statement.

/s/ PricewaterhouseCoopers LLP
San Jose, California
January 5, 2024

Exhibit 107

Calculation of Filing Fee Tables

Form S-1
(Form Type)

Metagenomi Technologies, LLC
(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered Securities

	Security Type	Security Class Title	Fee Calculation or Carry Forward Rule	Amount Registered	Proposed Maximum Offering Price Per Unit	Proposed Maximum Aggregate Offering Price(1)	Fee Rate	Amount of Registration Fee
Newly Registered Securities								
Fees to be Paid	Equity	Common Stock, $0.0001 par value per share(2)	Rule 457(o)			$100,000,000	$0.00014760	$ 14,760.00
Fees Previously Paid								
Carry Forward Securities								
	Total Offering Amounts					$100,000,000	$0.00014760	$ 14,760.00
	Total Fees Previously Paid							—
	Total Fees Offsets							$ —
	Net Fee Due							$ 14,760.00

(1) Estimated solely for the purpose of computing the registration fee in accordance with Rule 457(o) under the Securities Act of 1933, as amended.

(2) Metagenomi Technologies, LLC, the registrant whose name appears on the cover of the registration statement on Form S-1 of which this exhibit forms a part, is a Delaware limited liability company. Prior to the effectiveness of the registration statement, Metagenomi Technologies, LLC will complete a series of transactions pursuant to which Metagenomi Technologies, LLC will merge with and into its wholly-owned subsidiary, Metagenomi, Inc., a Delaware corporation, with Metagenomi, Inc. continuing as the surviving corporation.