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

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2021

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission File Number 001-37766

INTELLIA THERAPEUTICS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**36-4785571**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
40 Erie Street, Suite 130 Cambridge, Massachusetts	**02139**
(Address of principal executive offices)	**(Zip Code)**

(857) 285-6200
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each Class	Trade Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.0001 per share	NTLA	The Nasdaq Global Market

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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 definitions of "large accelerated filer," "accelerated filer", "smaller reporting company", and "emerging growth company" in Rule 12b-2 of the Exchange Act.

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. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of the registrant's common stock held by non-affiliates of the registrant was approximately $10,925,830,738 as of June 30, 2021 (based on a closing price of $161.91 per share as quoted by the Nasdaq Global Market as of such date). In determining the market value of non-affiliate common stock, shares of the registrant's common stock beneficially owned by officers, directors and affiliates have been excluded. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

The registrant had 74,672,427 shares of Common Stock, $0.0001 par value per share, outstanding as of February 17, 2022.

DOCUMENTS INCORPORATED BY REFERENCE

Part III of this Annual Report on Form 10-K incorporates by reference certain information from the registrant's definitive Proxy Statement for its 2022 annual meeting of shareholders, which the registrant intends to file pursuant to Regulation 14A with the Securities and Exchange Commission not later than 120 days after the registrant's fiscal year end of December 31, 2021. Except with respect to information specifically incorporated by reference in this Form 10-K, the Proxy Statement is not deemed to be filed as part of this Form 10-K.

Intellia Therapeutics, Inc.
Annual Report on Form 10-K for the Fiscal Year Ended December 31, 2021

Table of Contents

Forward-looking Information

This Annual Report on Form 10-K contains forward-looking statements which are made pursuant to the safe harbor provisions of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These statements may be identified by such forward-looking terminology as "may," "should," "expects," "intends," "plans," "anticipates," "believes," "estimates," "predicts," "potential," "continue" or the negative of these terms or other comparable terminology. Our forward-looking statements are based on a series of expectations, assumptions, estimates and projections about our company, are not guarantees of future results or performance and involve substantial risks and uncertainty. We may not actually achieve the plans, intentions or expectations disclosed in these forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in these forward-looking statements. Our business and our forward-looking statements involve substantial known and unknown risks and uncertainties, including the risks and uncertainties inherent in our statements regarding:

- our ability to execute our clinical study strategy for NTLA-2001, our program for the treatment of transthyretin ("ATTR") amyloidosis, including the ability to successfully complete our Phase 1 study and determine a recommended dose in our ongoing Phase 1 study that can be advanced into later-stage studies, or the success of such program;
- our ability to execute our clinical study strategy for NTLA-5001, our program for the treatment of acute myeloid leukemia ("AML"), including the ability to successfully complete our Phase 1/2a study and determine a recommended dose in our ongoing Phase 1 study that can be advanced into later-stage studies, or the success of such program;
- our ability to execute our clinical study strategy for NTLA-2002, our program for the treatment of hereditary angioedema ("HAE"), including the ability to successfully complete our Phase 1/2 study and determine a recommended dose in our ongoing Phase 1/2 study that can be advanced into later-stage studies, or the success of such program;
- the anticipated timing of our Investigational New Drug ("IND") or IND-equivalent filing for NTLA-3001, our program for the treatment of alpha-1 antitrypsin deficiency ("AATD")-associated lung disease, or the success of such program;
- our ability to use a modular platform capability or other strategies to efficiently discover and develop product candidates, including by applying learnings from one program to other programs;
- our ability to research, develop or maintain a pipeline of product candidates, including *in vivo* and *ex vivo* product candidates, including allogeneic *ex vivo* product candidates;
- our ability to manufacture or obtain materials for our preclinical and clinical studies, and our product candidates;
- our ability to advance any product candidates into, and successfully complete, clinical studies, including clinical studies necessary for regulatory approval and commercialization, and to demonstrate to the regulators that the product candidates are safe, effective, pure and potent and that their benefits outweigh known and potential risks for the intended patient population;
- our ability to advance our genome editing and therapeutic delivery capabilities;
- the scope of protection we are able to develop, establish and maintain for intellectual property rights, including patents and license rights, covering our product candidates and technology;
- our ability to operate, including commercializing products, without infringing or breaching the proprietary or contractual rights of others;
- the issuance or enforcement of, and compliance with, regulatory requirements and guidance regarding preclinical and clinical studies relevant to genome editing and our product candidates;
- the market acceptance, pricing and reimbursement of our product candidates, if approved;
- estimates of our expenses, future revenues, capital requirements and our needs for additional financing;

- the potential benefits of strategic agreements, such as collaborations, co-development and co-commercialization, acquisitions, dispositions, mergers, joint ventures, and investment agreements, and our ability to establish and maintain strategic arrangements under favorable terms;
- our ability to acquire and maintain relevant intellectual property licenses and rights, and the scope and terms of such rights;
- developments relating to our licensors, licensees, third parties and ventures from which we derive or license rights, as well as collaborators, competitors and our industry;
- the effect of the ongoing COVID-19 pandemic, including mitigation efforts and economic effects, on any of the foregoing or other aspects of our business operations; and
- other risks and uncertainties, including those listed under the caption "Risk Factors."

All of our express or implied forward-looking statements are as of the date of this Annual Report on Form 10-K only. In each case, actual results may differ materially from such forward-looking information. We can give no assurance that such expectations or forward-looking statements will prove to be correct. An occurrence of or any material adverse change in one or more of the risk factors or risks and uncertainties referred to in this Annual Report on Form 10-K or included in our other public disclosures or our other periodic reports or other documents or filings filed with or furnished to the Securities and Exchange Commission (the "SEC") could materially and adversely affect our business, prospects, financial condition and results of operations. Except as required by law, we do not undertake or plan to update or revise any such forward-looking statements to reflect actual results, changes in plans, assumptions, estimates or projections or other circumstances affecting such forward-looking statements occurring after the date of this Annual Report on Form 10-K, even if such results, changes or circumstances make it clear that any forward-looking information will not be realized. Any public statements or disclosures by us following this Annual Report on Form 10-K that modify or impact any of the forward-looking statements contained in this Annual Report on Form 10-K will be deemed to modify or supersede such statements in this Annual Report on Form 10-K.

Summary of the Material Risks Associated with Our Business

- CRISPR/Cas9 genome editing technology has limited clinical validation and has not been approved for human therapeutic use. The approaches we are taking to discover and develop novel therapeutics using CRISPR/Cas9 systems are unproven and may never lead to marketable products. If we are unable to develop viable product candidates, achieve regulatory approval for any such product candidate or market and sell any product candidates, we may never achieve profitability.
- Results, including data from our preclinical studies and clinical trials, that we announce from time to time, such as the interim data from our ongoing Phase 1 study of NTLA-2001, are not necessarily predictive of our other ongoing and future preclinical and clinical studies, and they do not guarantee or indicate the likelihood of approval of any potential product candidate by the United States Food and Drug Administration ("FDA") or any other regulatory agency. If we cannot replicate the positive results from any of our preclinical or clinical studies, we may be unable to successfully develop, obtain regulatory approval for and commercialize any potential product candidate.
- *In vivo* genome editing products and *ex vivo* engineered cell therapies based on CRISPR/Cas9 genome editing technology are novel and may be complex and difficult to manufacture. We could experience manufacturing problems or regulatory requirements that result in delays in the development, approval or commercialization of our product candidates or otherwise harm our business.
- Clinical development involves a lengthy and expensive process, with an uncertain outcome. We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of any product candidates.
- If we experience delays or difficulties in the enrollment of patients in clinical trials, our ability to complete clinical trials or our receipt of necessary regulatory approvals could be delayed or prevented.
- Even if we obtain regulatory approval of any product candidates, such candidates may not gain market acceptance among physicians, patients, hospitals, third party payors and others in the medical community.

- Business interruptions resulting from the ongoing coronavirus disease 2019 (“COVID-19”) outbreak or similar public health crises could cause a disruption of the development of our product candidates and adversely impact our business.
- We face significant competition in an environment of rapid technological change. The possibility that our competitors may achieve regulatory approval before we do or develop therapies that are more advanced or effective than ours may harm our business and financial condition or our ability to successfully market or commercialize our product candidates.
- Our ability to generate revenue from product sales and become profitable is dependent on the success of our application of CRISPR/Cas9 technology for human therapeutic use, which is at an early stage of development and will require significant additional discovery efforts, preclinical testing and clinical studies and manufacturing capabilities, as well as applicable regulatory guidance regarding preclinical testing and clinical studies from the FDA and other similar regulatory authorities, before we can seek regulatory approval and begin commercial sales of any potential product candidates.
- Negative public opinion and increased regulatory scrutiny of CRISPR/Cas9 use, genome editing or gene therapy generally may damage public perception of the safety of any product candidates that we develop and adversely affect our ability to conduct our business or obtain regulatory approvals for such product candidates.
- Our internal computer systems, or those of our collaborators or other contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our operations and development efforts.
- Our technological advancements and any potential for revenue may be derived in part from our collaborations, including, for example, with Regeneron Pharmaceuticals, Inc. (“Regeneron”) and AvenCell Therapeutics, Inc., (“AvenCell”), and if the collaboration or co-development agreements related to a material collaboration were to be terminated or materially altered in an adverse manner, our business, financial condition, results of operations and prospects would be harmed.
- Under our license agreement with Caribou Biosciences, Inc. (“Caribou”), we sublicense a patent family from the Regents of the University of California and the University of Vienna that is co-owned by Dr. Emmanuel Charpentier. The outcome of on-going legal proceedings, as well as potential future proceedings, related to this patent family may affect our ability to utilize certain intellectual property sublicensed under our license agreement with Caribou.
- We could be unsuccessful in obtaining or maintaining adequate patent protection for one or more of our products or product candidates, or asserting and defending our intellectual property rights that protect our products and technologies.
- We could be unable to avoid, obtain or invalidate patent rights from third parties necessary to develop, manufacture or commercialize our product candidates in one or more jurisdictions.
- We have incurred net losses in each period since our inception, anticipate that we will continue to incur net losses in the future and may never achieve profitability.
- The price of our common stock historically has been volatile, which may affect the price at which you could sell any shares of our common stock.

PART I

Item 1. Business

Overview

We are a leading clinical-stage genome editing company, focused on developing novel, potentially curative therapeutics using CRISPR/Cas9 technology. CRISPR/Cas9, an acronym for Clustered, Regularly Interspaced Short Palindromic Repeats ("CRISPR")/CRISPR associated 9 ("Cas9"), is a technology for genome editing, the process of altering selected sequences of genomic deoxyribonucleic acid ("DNA"). To realize the transformative potential of CRISPR/Cas9-based technologies, we are building a full-spectrum genome editing company, by leveraging our modular platform, to advance *in vivo a*nd *ex vivo* therapies for diseases with high unmet need. For our *in vivo* programs to address genetic diseases, we use intravenously administered CRISPR as the therapy, in which our proprietary delivery technology enables highly precise editing of disease-causing genes directly within specific target tissues. For our *ex vivo* programs to address immuno-oncology and autoimmune diseases, we use CRISPR to create the therapy by engineering cells outside of the body. Our deep scientific, technical and clinical development experience, along with our robust intellectual property ("IP") portfolio, enables us to unlock broad therapeutic applications of CRISPR/Cas9 and related technologies to create new classes of genetic medicine.

Treating—and potentially curing—a broad range of severe diseases will require multiple gene editing approaches. With proprietary CRISPR/Cas9-based technology at the core of our platform, we continue to add new capabilities to expand our current solutions for addressing a multitude of life-threatening diseases. These additions include our proprietary base editor, as well as novel CRISPR enzymes, which provide us with the capabilities to achieve multiple editing strategies.

We continue to advance our platform's modular solutions and research efforts on genome editing technologies as well as delivery and cell engineering capabilities to generate additional development candidates.

Our mission is to transform the lives of people with severe diseases by developing curative genome editing treatments. We believe we can deliver on our mission and provide long-term benefits for all of our stakeholders by focusing on four key elements:

- Develop curative CRISPR/Cas9-based medicines;
- Advance our science;
- Be the best place to make therapies; and
- Focus on long-term sustainability.

Our lead *in vivo* candidate, NTLA-2001 for the treatment of transthyretin ("ATTR") amyloidosis, as well as NTLA-2002 for the treatment of hereditary angioedema ("HAE") are the first CRISPR/Cas9-based therapy candidates to be administered systemically, via intravenous infusion, for precision editing of a gene in a target tissue in humans. In parallel, we are developing *ex vivo* applications to address immuno-oncology and autoimmune diseases, where CRISPR/Cas9 is the tool that creates the engineered cell therapy. Our most advanced *ex vivo* programs include a wholly owned T cell receptor ("TCR")-T cell candidate, NTLA-5001 for the treatment of acute myeloid leukemia ("AML"), and a program with Novartis Institutes for BioMedical Research, Inc. ("Novartis") to engineer hematopoietic stem cells ("HSCs") for the treatment of sickle cell disease.

CRISPR/Cas9 Technology

The Nobel Prize-winning CRISPR/Cas9 system developed by one of our scientific co-founders, Dr. Jennifer Doudna, and her collaborators, offers a revolutionary approach for therapeutic development due to its broad ability to precisely edit the genome. This system can be used to make three general types of edits: knockouts, repairs and insertions. Each of these editing strategies takes advantage of the Cas9 endonuclease, an enzyme which can be programmed to edit double-stranded DNA at specific locations using a ribonucleic acid ("RNA") molecule, called a guide RNA ("gRNA"). The desired edits result from naturally-occurring biological mechanisms that effect particular types of genetic alterations. CRISPR/Cas9 genome editing has the potential to make permanent, precisely targeted changes in a patient's chromosomes and repair the underlying genetic mutation, whereas more traditional gene therapy typically

involves introducing a non-permanent copy of a gene into a patient's cells. These attributes of CRISPR/Cas9 provide a significant therapeutic edge over other gene therapy and costly earlier-generation genome editing technologies.

Strategy

Our goal is to build a full spectrum, fully integrated, product-driven biotechnology company, focused on developing and commercializing curative CRISPR/Cas9-based therapeutics. Our approach to advancing the broad potential of genome editing includes:

Focusing on Indications that Enable Us to Fully Develop the Potential of the CRISPR/Cas9 System. To maximize our opportunity to rapidly develop clinically successful products, we have applied a risk-mitigated approach to selecting indications with significant unmet medical needs based on four primary criteria:

- the type of edit: knockout, repair or insertion;
- the delivery modality for *in vivo* and *ex vivo* applications;
- the existence of efficient regulatory pathways to approval; and
- the potential for the CRISPR/Cas9 system to provide improved therapeutic benefits over existing therapeutic options.

We believe these selection criteria position us to build a diversified pipeline, in which we are not reliant on any single delivery technology or editing approach for success. This approach has the potential to increase the probabilities of success in our initial indications, and generate insights that will accelerate the development of additional therapeutic products. Specifically, we believe we can apply the learnings from our current programs to inform our selection of additional indications and targets of interest.

Aggressively Pursuing* In Vivo *Liver Indications to Develop Therapeutics Rapidly with Our Proprietary Delivery System. For our *in vivo* indications, we select well-validated targets in diseases with significant unmet medical needs where there are predictive biomarkers, or measurable indicators of a biological condition or state, with strong disease correlation and where the CRISPR/Cas9 technology and our proprietary delivery tools can be applied towards developing novel therapeutics. Our current *in vivo* pipeline targets diseases of the liver, including ATTR amyloidosis and HAE as a gene knockout approach to remove unwanted protein, all of which we believe we can address using our proprietary lipid nanoparticle ("LNP") delivery system. In addition, we are exploring the use of our insertion platform to restore native protein including the treatment of alpha-1 antitrypsin deficiency ("AATD"), hemophilia A, hemophilia B, and additional disease indications.

Actively Developing and Expanding* Ex Vivo *Therapeutic Programs. We are independently researching and developing proprietary engineered cell therapies to treat various cancers and autoimmune diseases. Our initial focus is on TCR-engineered T cells for immuno-oncology applications, which could be used to treat various types of blood cancers and solid tumors. Our current *ex vivo* pipeline includes engineered cell therapies to treat cancers, such as AML.

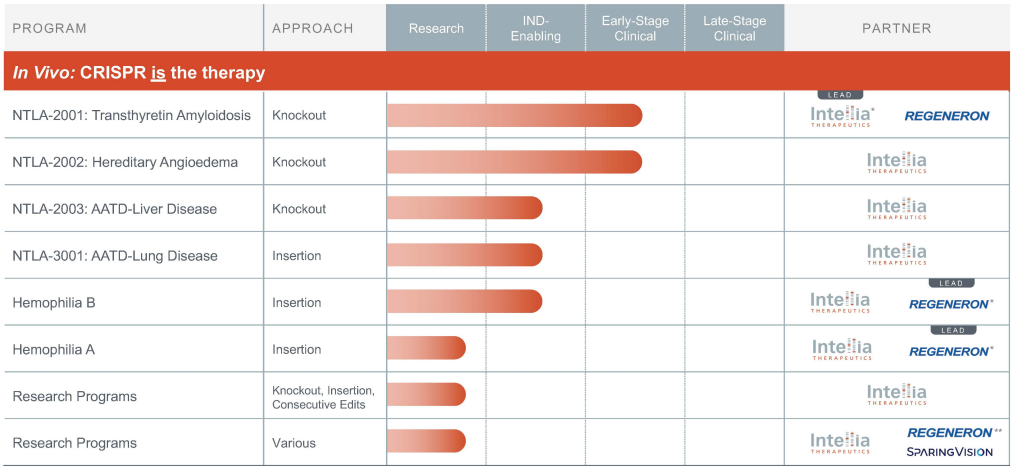
Continuing to Leverage Strategic Partnerships to Accelerate Clinical Development. We view strategic partnerships as important drivers for accelerating the achievement of our goal of rapidly developing curative therapies. The potential application of CRISPR/Cas9 and derivative technologies is extremely broad, and we plan to continue to identify partners who can contribute meaningful resources and technical expertise to our programs and allow us to more rapidly bring scientific innovation to a broader patient population. Our ongoing partnership on *in vivo* programs for genetic diseases with Regeneron Pharmaceuticals, Inc. ("Regeneron"), a leader in genetics-driven drug discovery and development, and our collaborations with AvenCell Therapeutics, Inc. ("AvenCell"), a newly formed corporation with a world-leading clinical-stage universal chimeric antigen receptor T ("CAR-T") platform; SparingVision SAS ("SparingVision"), a genomic medicine company developing vision saving treatments for ocular diseases; Kyverna Therapeutics, Inc. ("Kyverna"), a cell therapy company engineering a new class of therapies for autoimmune and inflammatory diseases; and ONK Therapeutics, Ltd. ("ONK"), a cell therapy company engineering a new class of natural killer ("NK") cell therapies to treat cancer, exemplify this strategy.

Growing Our Leadership Position in the Field of Genome Editing. We are committed to broadening our capabilities to remain at the cutting edge of genome editing research. We will continue to invest internally in developing our platform capabilities, including innovative genome editing, delivery and cell engineering technologies to advance our therapeutic programs. We will also continue to explore accessing external technologies or opportunities to enhance our leadership position in developing innovative therapeutics.

Our Pipeline

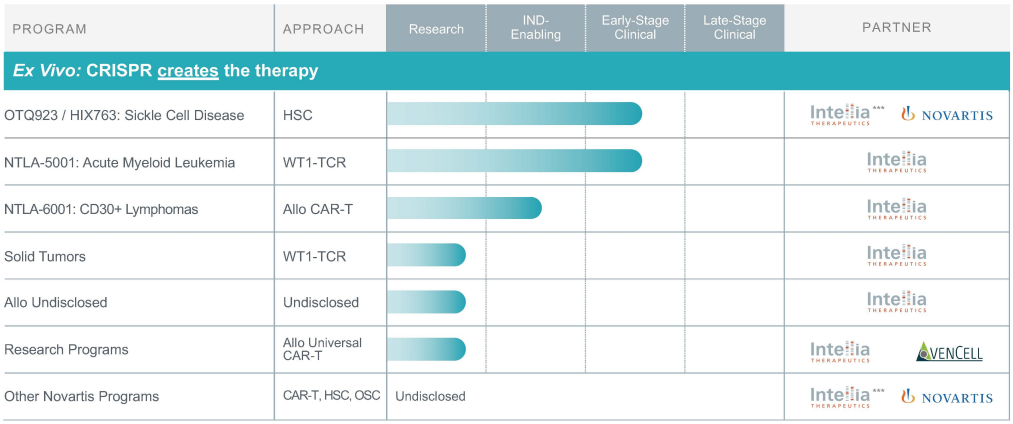
The following table summarizes the status of our most advanced programs:

In Vivo Development Pipeline Fueled by Robust Research Engine



*Lead development and commercial party **Rights to certain *in vivo* targets **AATD:** Alpha-1 Antitrypsin Deficiency

Ex Vivo Development Pipeline Fueled by Robust Research Engine



***Milestones & royalties only **CAR-T:** Chimeric Antigen Receptor T Cells **HSC:** Hematopoietic Stem Cells **OSC:** Ocular Stem Cells **TCR:** T Cell Receptor

In Vivo *Programs*

Our selection criteria include identifying diseases that originate in the liver; have well-defined mutations that can be addressed by a knockout or insertion approach; have readily measurable therapeutic endpoints with observable clinical responses; and for which effective treatments are absent, limited or unduly burdensome. Our initial *in vivo* indications target genetic liver diseases, including our ATTR amyloidosis, HAE and AATD development programs. Our current efforts on *in vivo* delivery focus on the use of LNPs for delivery of the CRISPR/Cas9 complex to the liver.

Transthyretin ("ATTR") Amyloidosis Program

Background

ATTR amyloidosis is a progressive and fatal disorder resulting from deposition of insoluble amyloid fibrils into multiple organs and tissues leading to systemic failure. Blood-borne transthyretin ("TTR") protein is produced by hepatocytes and normally circulates as a soluble homotetramer that facilitates transport of vitamin A, via retinol binding protein, as well as the thyroid hormone, thyroxine. Mutations in the *TTR* gene lead to the production of TTR proteins that are destabilized in their tetramer form. These tetramers more readily dissociate into the monomeric form, and thence to an aggregative form that results in amyloid deposits in tissues. These deposits cause damage in those tissues, resulting in a disorder known as hereditary ATTR amyloidosis ("ATTRv"). Over 120 different genetic mutations are currently known to cause ATTRv.

Deposits of TTR amyloid in the heart, nerves and/or other tissues can lead to diverse disease manifestations, including two main hereditary forms – ATTRv with polyneuropathy ("ATTRv-PN"), and ATTRv with cardiomyopathy ("ATTRv-CM"). Typical onset of disease symptoms is during adulthood and can be fatal within two to 15 years. Estimates suggest that approximately 50,000 patients suffer from ATTRv worldwide.

In addition to the hereditary forms described above, ATTR amyloidosis can also develop spontaneously in the absence of any *TTR* gene mutation. This wild-type ATTR ("ATTRwt") is increasingly being recognized as a significant and often undiagnosed cause of heart failure in the elderly and is the subject of active investigation. Recent estimates suggest that, globally, between 200,000 and 500,000 people may suffer from ATTRwt with cardiomyopathy ("ATTRwt-CM").

Limitations of Current Treatment Options

Currently, there are two therapies for the treatment of ATTRv-PN approved in the United States ("U.S."), and three approved in most major markets outside of the U.S. While these therapies have shown the potential to slow or halt the progression of neuropathic symptoms, and in some patients lead to an improvement in symptoms, their approved prescribing instructions require them to be administered chronically for the life of the patient in order to sustain benefit. Additionally, patient response to these therapies varies. While some patients may experience symptomatic improvement after being treated with these therapies, the disease continues to progress in many of the treated patients, which highlights the continued need for efficacious and potentially curative therapies. At present, there is only one therapy approved for ATTR-CM (including both ATTRv-CM and ATTRwt-CM) which has shown the ability to improve patient outcomes, though most patients still appear to have the progressive disease. As with the treatments for ATTRv-PN, chronic, lifetime dosing is required to sustain the therapeutic effects.

Our Approach

NTLA-2001 is designed as an *in vivo* liver gene knockout approach for the treatment of ATTR amyloidosis. We believe that by disabling the *TTR* gene in the liver with CRISPR/Cas9 technology, we have the potential to cure ATTR amyloidosis. We expect this approach to greatly reduce the production of circulating TTR protein levels, which should slow or stop the accumulation of undesired TTR protein in the nerves and the heart, thereby halting and potentially reversing disease progression. Using this approach, we aim to address both forms of the disease - ATTRv and ATTRwt. Current treatments and ongoing clinical trials in ATTRv-PN have shown a significant correlation between TTR protein reduction and clinical benefit. Additionally, these studies suggest that loss of *TTR* gene expression from the liver would be well-tolerated in adult humans. We believe our approach may improve patient outcomes by potentially eliminating defective TTR protein in a single dose, as opposed to life-long therapy. We have assessed delivery of gRNAs directed at the *TTR* gene together with Cas9 messenger RNA ("mRNA") via LNPs and have

achieved high levels of liver cell editing *in vitro* and *in vivo*, as well as reduction of serum TTR protein in multiple animal models.

In non-human primate ("NHP") studies, we have demonstrated our ability to reduce circulating TTR protein to estimated therapeutically relevant levels after a single systemic administration of LNPs containing our CRISPR/Cas9 complex. In December 2019, we completed a year-long durability study of our lead LNP formulation, maintaining an average reduction of more than 95% of serum TTR protein after a single dose in NHPs. The data from our various NHP studies has shown that following editing, our proprietary modular LNP delivery system is rapidly cleared from circulation, such that exposure to components is transient and all CRISPR/Cas9 complex is undetectable in blood within 14 days of administration.

About the NTLA-2001 Clinical Program

Our global Phase 1 study is an open-label, multi-center, two-part study of NTLA-2001 in adults with ATTRv-PN or ATTR-CM. The trial's primary objectives are to assess the safety, tolerability, pharmacokinetics and pharmacodynamics of NTLA-2001. Patients receive a single dose of NTLA-2001 via intravenous administration. The study will enroll up to 38 ATTRv-PN participants (ages 18-80 years) and up to 36 ATTR-CM participants (ages 18-90 years) and consists of a single-ascending dose phase in Part 1 and, following the identification of a recommended dose, an expansion phase in Part 2. The ongoing first-in-human study is currently being conducted in the United Kingdom ("U.K."), New Zealand and Sweden. NTLA-2001 has received orphan drug designation for the treatment of ATTR amyloidosis by both the European Commission ("EC") and the U.S. Food and Drug Administration ("FDA").

On June 26, 2021, at the Peripheral Nerve Society ("PNS") Annual Meeting and in the New England Journal of Medicine, we publicly disclosed positive interim data from our ongoing Phase 1 study of NTLA-2001. The interim data cover the first six ATTRv-PN patients across two single-ascending dose cohorts of the Phase 1 study. Single doses of either 0.1 mg/kg or 0.3 mg/kg of NTLA-2001 were administered systemically. Reductions in serum TTR levels were measured from baseline to day 28. Treatment with NTLA-2001 led to dose-dependent reductions in serum TTR, with mean reductions of 52% among the three patients in the 0.1 mg/kg dose group, and 87% among the three patients in the 0.3 mg/kg dose group, including one patient with a 96% reduction. At both dose levels, NTLA-2001 was generally well-tolerated by the six ATTRv-PN patients included in the interim analysis, with no serious adverse events or abnormal coagulation or liver findings by day 28.

NTLA-2001 is completing the dose-escalation portion of the study, to determine the recommended dose for evaluation in Part 2 of the study, a single-dose expansion cohort. For the third cohort in the dose-escalation portion, we will be evaluating NTLA-2001 at the 1 mg/kg dose level. During the third quarter, to more fully elucidate the dose-response relationship, we began dosing subjects in Cohort 4, evaluating NTLA-2001 in patients with ATTRv-PN at the 0.7 mg/kg dose level. We plan to present interim data from all four cohorts in the single-ascending dose phase in Part 1 at a company-sponsored event and to initiate Part 2, a single-cohort expansion, in the first quarter of 2022. Data to be presented will include safety and serum TTR knockdown for Cohorts 3 and 4 as well as an early look at durability across all cohorts.

We also accelerated the development of NTLA-2001 for the treatment of patients with ATTR-CM. In November 2021, we announced that the U.K. Medicines and Healthcare products Regulatory Agency ("MHRA") had approved a protocol amendment for our ongoing Phase 1 study of NTLA-2001 to include patients with either ATTRv-CM or ATTRwt-CM. The study of NTLA-2001 in patients with cardiomyopathy will be enrolled in new dose-escalation and expansion cohorts. In December 2021, the first patient in the cardiomyopathy arm of the Phase 1 study was treated with NTLA-2001. We expect to complete enrollment of the Phase 1 study for both ATTRv-PN and ATTR-CM subjects in 2022.

NTLA-2001 is part of a co-development and co-promotion ("Co/Co") agreement directed to our first collaboration target with Regeneron, ATTR (the "ATTR Co/Co"), for which we are the clinical and commercial lead party and Regeneron is the participating party. Regeneron shares in approximately 25% of worldwide development costs and commercial profits for the ATTR program. For more information regarding our collaboration with Regeneron, see the section below entitled "**Collaborations - *Regeneron Pharmaceuticals, Inc.***"

Hereditary Angioedema ("HAE") Program

Background

HAE is a rare genetic disorder characterized by recurrent, painful and unpredictable episodes of severe swelling. The most common areas of the body to develop swelling are the limbs, face, intestinal tract and airway. Minor trauma or stress may trigger an attack but swelling often occurs without a known trigger. Episodes involving the intestinal tract cause severe abdominal pain, nausea and vomiting. Swelling in the airway can restrict breathing and lead to life-threatening obstruction of the airway. The disease is caused by increased levels of bradykinin, a protein which leads to swelling. Most patients with HAE have a deficiency of C1 esterase inhibitor ("C1-INH") protein, which normally prevents the unregulated release and buildup of bradykinin. HAE is estimated to affect 1 in 50,000 people, with an estimated 11,000 to 21,500 diagnosed HAE patients in the U.S. and Europe.

Limitations of Current Treatment Options

Currently, there are multiple therapies approved to treat HAE, including acute and prophylactic approaches. Acute treatments are used to treat patients who are experiencing an attack. Prophylactic treatments are used to reduce the number of attacks that a patient may experience. Prophylactic treatments have proven to be effective in reducing the number of attacks for most patients, though some patients still experience breakthrough attacks and such treatment options require regular injections that can be associated with significant treatment burden and impact on quality of life.

Our Approach

Using our modular LNP delivery system, we aim to knock out the *kallikrein B1 ("KLKB1"*) gene with a single dose to permanently reduce the plasma kallikrein activity and thereby ameliorate the frequency and intensity of HAE attacks. We expect our approach should eliminate the current, significant treatment burden for people living with HAE and minimize the risk of breakthrough attacks with extensive and continuous reduction in plasma kallikrein activity. We believe *KLKB1* knockout to be safe, as humans with prekallikrein deficiency appear to have no known health effects. In addition, inhibition of kallikrein activity has proven to be clinically effective as a prophylactic treatment for HAE.

On May 7, 2020, we announced NTLA-2002 as our wholly owned development candidate for the treatment of HAE. We have completed an NHP durability study of our lead LNP formulation in support of NTLA-2002, which resulted in a 24 month-long therapeutically relevant reduction of serum kallikrein protein levels and activity following a single dose.

About the NTLA-2002 Clinical Program

The multi-national Phase 1/2 study will evaluate the safety, tolerability, pharmacokinetics and pharmacodynamics of NTLA-2002 in adults with Type I or Type II HAE. This includes the measurement of kallikrein protein levels and activity as determined by HAE attack rate measures. The Phase 1 portion of the study is an open-label, single-ascending dose design used to identify up to two dose levels of NTLA-2002 that will be further evaluated in the randomized, placebo-controlled Phase 2 portion of the study. This Phase 1/2 study is intended to identify the dose of NTLA-2002 for use in future studies. In December 2021, we announced that the first patient was dosed with NTLA-2002. The first-in-human study is expected to evaluate the safety, tolerability and activity of NTLA-2001 in adults with Type I or Type II HAE. We expect to present interim data from the Phase 1/2 study in the second half of 2022. These data are expected to characterize the emerging safety and activity profile of NTLA-2002, and to potentially demonstrate preliminary proof-of-concept.

Alpha-1 Antitrypsin Deficiency ("AATD") Program

Background

AATD is a genetic disorder that results in increased risk for lung and/or liver disease. Alpha-1 antitrypsin ("A1AT"), which is encoded by the *SERPINA1* gene, is a serine protease inhibitor that is primarily produced in the liver and has a wide range of biological functions, one of which is to inhibit neutrophil elastase. Patients with AATD have genetic variants of A1AT which cause the enzyme to accumulate in the liver, reducing the amount of functioning A1AT in the bloodstream. This has two prominent potential downstream clinical manifestations. The first is an increased risk for progressive liver disease, resulting from an accumulation of mutant A1AT enzyme in the liver. The second, and more common, effect is enhanced risk for emphysema resulting from reduced inhibition of neutrophil elastase in the lungs. Both clinical manifestations are progressive and potentially fatal.

It is estimated that there are approximately 250,000 individuals globally and 60,000 in the U.S. with the ZZ genotype, the genotype most associated with AATD and the downstream clinical manifestations. There are another 1.25 million individuals globally estimated to have the SZ genotype, who are also at enhanced risk of developing AATD. While augmentation therapy is available for the treatment of AATD, the effect on pulmonary exacerbations and on the progression of emphysema in AATD has not been conclusively demonstrated in randomized, controlled clinical trials. Also, at present, there are no therapies that have been approved for the treatment of liver disease resulting from AATD.

Limitations of Current Treatment Options

There are multiple therapies approved by the FDA to treat patients with emphysema caused by hereditary AAT deficiency. All marketed therapies are alpha-1 proteinase inhibitors (alpha-1 antitrypsin) given through intravenous infusion, with the goal of augmenting naturally-occurring low levels of A1AT. To maintain benefit, current therapies are usually given weekly for the duration of a patient's lifetime. Currently marketed therapies may slow the progression of disease and lung dysfunction, but there remains high unmet need for more effective, and less burdensome, therapies that can further slow, halt, or even reverse disease progression.

Our Approaches

NTLA-3001

In October 2021, we announced the nomination of NTLA-3001, our development candidate for the treatment of AATD-associated lung disease. NTLA-3001 is our first wholly owned CRISPR/Cas9-mediated *in vivo* gene insertion development candidate. It is designed with the aim to precisely insert a functional *SERPINA1* gene, which encodes the A1AT protein in the liver, with the potential to permanently restore expression of functional A1AT protein levels after a single dose. This approach aims to address AATD-associated lung disease and eliminate the need for sub-optimal weekly IV infusions of A1AT augmentation therapy or transplant in severe cases.

In October 2021, we presented data showing that insertion of a healthy form of the *SERPINA1* gene led to normal human A1AT levels in NHPs which were durable through 52 weeks in an ongoing study. We are conducting Investigational New Drug ("IND")-enabling activities for NTLA-3001 with plans to file an IND application or IND-equivalent application in 2023.

NTLA-2003

In February 2022 we announced NTLA-2003, a wholly owned *in vivo* knockout development candidate for the treatment of AATD-associated liver disease. It is designed to inactivate the *SERPINA1* gene responsible for the production of abnormal A1AT protein in the liver. This approach aims to halt the progression of liver disease and eliminate the need for liver transplant in severe cases.

We have presented data showing that knockout of the *SERPINA1* gene led to reduction of the abnormal A1AT, the endogenous disease-associated protein, in NHPs. We are advancing towards IND-enabling activities for this program.

In Vivo *Research Programs*

We continue to work on various liver-focused programs, such as hemophilia A and hemophilia B, which we are co-developing with Regeneron, primary hyperoxaluria type 1, as well as other liver targets, which are worked on both

independently and in partnership with Regeneron, which leverage our capabilities to knockout, insert and make consecutive edits to the genome.

In the third quarter of 2021, we and Regeneron, the lead party for this program, nominated a *Factor 9 ("F9"*) gene insertion development candidate for our Hemophilia B ("Hem B") program, leveraging our jointly developed targeted transgene insertion capabilities to insert *F9*. *F9* is a gene that encodes for Factor IX ("FIX"), a blood-clotting protein that is missing or defective in Hem B patients. In preclinical studies, we and Regeneron demonstrated the first CRISPR/Cas9-mediated targeted transgene insertion in the liver of NHPs, which resulted in circulating FIX levels at or above those found in normal human plasma. At the 2019 American Society of Gene and Cell Therapy Annual Meeting, we presented data demonstrating the first CRISPR/Cas9-mediated, targeted transgene insertion in the liver of NHPs, using *F9* as a model gene. Following a single dose to NHPs of the hybrid LNP-adeno-associated virus ("AAV") delivery system containing an *F9* DNA template, we demonstrated that the circulating human FIX protein levels achieved in NHPs were at or above normal levels. Additionally, the NHP data expands on the durability of clinically relevant human FIX protein levels achieved in mice for over 12 months.

In September 2020, we presented data that showed the persistence of *in vivo* CRISPR/Cas9 edits in regenerated liver tissue, both knockout and insertion, and corresponding durability of effect following a partial hepatectomy ("PHx") and liver regrowth in a murine model. Unlike traditional gene therapy, for which a significant loss (over 80%) in transgene expression was observed in the insertion PHx model, our targeted gene insertion approach yielded durable edits, with no significant loss in expression.

We are further investigating delivery strategies that target tissues outside of the liver. For example, at the Keystone eSymposium: Precision Engineering of the Genome, Epigenome and Transcriptome in March 2021, we presented preclinical data establishing proof-of-concept for non-viral genome editing of bone marrow and HSCs in mice. This represented our first demonstration of systemic *in vivo* genome editing in bone marrow using our proprietary non-viral delivery platform. We believe these results extend our modular *in vivo* capabilities to treat inherited blood disorders such as sickle cell disease. In addition, we announced a collaboration with SparingVision to develop novel genomic medicines utilizing CRISPR/Cas9 technology for the treatment of ocular diseases.

Following the nomination of NTLA-2003, we plan to advance at least one new *in vivo* development candidate by the end of 2022.

Ex Vivo *Programs*

We are independently researching and developing proprietary engineered cell therapies to treat various oncological and other disease indications, for example TCR-engineered T cells and CAR-T cells for immuno-oncology applications and engineered regulatory T cells for autoimmune disorders. Our diverse product strategy includes multiple elements. In particular:

- We are developing TCR-engineered T cells as immuno-oncological therapies. For example, in our existing collaboration with Ospedale San Raffaele, Milan, a leading European research-university hospital, we have identified optimized TCRs that recognize a tumor target, Wilms' Tumor 1 ("WT1"), that could be used to treat a variety of blood cancers and solid tumors; and
- We are developing allogeneic cellular therapies, which are those derived from unmatched donors and modified outside of the human body to allow them to be administered to an unrelated patient. These allogeneic cellular therapies could be used to treat both oncological and immunological diseases.

In addition, we strategically partner with others who possess complementary capabilities or technologies to bring forth innovative engineered cell therapies outside of our core areas of focus. This includes collaborations with AvenCell and Kyverna, who will be leveraging our *ex vivo* genome editing platform to develop novel cell therapies for a variety of therapeutic indications, as well as ONK to advance CRISPR-edited NK cell therapies. Further, our partner Novartis is developing therapies directed to selected targets using CAR-T cells for oncology indications, as well as HSC and ocular stem cell ("OSC")-based therapies.

Acute Myeloid Leukemia ("AML")

Background

AML includes a heterogeneous group of blood cancers arising from the malignant expansion of hematopoietic cells of the myeloid lineage. AML is associated with weakness, fatigue and bleeding resulting from the depletion of healthy myeloid cells, and is typically rapidly progressive and fatal without immediate treatment. AML is an aggressive and hard-to-treat cancer, resulting in less than 30% of patients living more than five years after diagnosis. AML is the most common acute leukemia in adults and is associated with the largest number of annual deaths from leukemia in the U.S. It is estimated that there were over 11,000 deaths due to AML, as well as nearly 20,000 new AML cases in the U.S. in 2020. While AML can occur at any age, the prevalence of the disease increases with age, resulting in a median age at diagnosis of 68 years.

Limitations of Current Treatment Options

Induction chemotherapy, most commonly with cytarabine and anthracycline, represents the standard first-line treatment option for patients who can tolerate an intensive treatment regimen. Patients who achieve remission with induction typically receive additional chemotherapy or an HSC transplant as consolidation therapy. While this treatment approach has the potential to lead to sustained remission or even cure patients, the intensity of these treatments is associated with significant morbidity and mortality. Patients who are older, who represent a significant proportion of the patient population, are often unable to be treated with an intensive regimen and are commonly treated with BCL-2 inhibitors, lower intensity chemotherapy or hypomethylating agents. While these therapies offer the potential to prolong survival and address some of the clinical symptomatology associated with AML, they are not generally considered to be potentially curative treatments. Even among patients who are considered fit enough to receive an intensive regimen, a significant proportion of patients are refractory (i.e., do not achieve a complete remission). Further, relapse is common even among those patients who achieve a remission.

Over the past several years, new treatments have emerged for AML with different mechanisms of action. While these treatments have led to improvements in response rates and in some cases increased overall survival, the outcomes demonstrated thus far have been incremental in nature and long-term outcomes in AML continue to be extremely poor.

Our Approach

NTLA-5001 is our engineered T cell therapy development candidate for the treatment of AML, utilizing our TCR-directed approach to target the WT1 intracellular antigen and restricted to the *HLA-A*02:01* allele. As WT1 is overexpressed in >90% of AML blasts, we are developing NTLA-5001 as a broadly applicable treatment for AML, regardless of mutational subtypes of a patient's leukemia. This approach employs CRISPR/Cas9 complexes to knock out and replace the patient's endogenous TCR with a natural, high avidity therapeutic TCR. The resulting cells are engineered to be capable of specific and potent killing of AML blasts without bone marrow cell toxicity. In December 2020, we presented data on NTLA-5001 highlighting the high anti-tumor activity observed in proof-of-concept mouse models of acute leukemias and the faster expansion and superior function of T cells manufactured by our proprietary approach, compared to T cells engineered with a standard genome editing process.

About the NTLA-5001 Clinical Program

In September 2021, we announced that the FDA had accepted the IND application for NTLA-5001. This first-in-human Phase 1/2a study will evaluate the safety, tolerability, cell kinetics and anti-tumor activity of a single dose of NTLA-5001 in adults who have detectable AML after having received standard first-line therapies. The study will contain a dose escalation and expansion phase, with up to 54 participants. The dose-escalation phase of the study will include two independent arms of up to three cohorts: Arm 1 will consist of adults with AML with lower disease burden, defined as those with less than 5% blasts in bone marrow, while Arm 2 will consist of adults with AML with higher disease burden, defined as those greater than or equal to 5% blasts in bone marrow. Once a dose is identified in each arm, two expansion cohorts will be opened for further assessment of safety and activity in patients with persistent or recurrent AML who have previously received first-line therapies.

In the fourth quarter of 2021, we initiated screening of patients in the Phase 1/2a study of NTLA-5001 for patients with AML. We have begun enrolling patients and we expect to dose our first patient in the coming weeks. Later this

year, we plan to provide guidance around timing of the first expected data readout, with the goal of demonstrating clinical proof-of-concept for its TCR-based platform.

Hodgkin's Lymphoma

Background

Hodgkin's Lymphoma is a lymphoma that arises typically from B lymphocytes and spreads through the lymphatic system, a component of the immune system. Hodgkin's Lymphoma usually affects younger individuals, with a median age of diagnosis less than 40-years-old. In the U.S. alone, almost 9,000 individuals are diagnosed annually with Hodgkin's Lymphoma.

Limitations of Current Treatment Options

Current treatments are associated with significant toxicity and require treatment cycles over the course of several months. Additionally, individuals that relapse after initial therapy and are not eligible for transplants typically have poorer prognoses, with little opportunity for a curative therapy.

Other CD30+ Lymphomas

Background

CD30+ lymphomas (other than Hodgkin's Lymphoma) include various peripheral T-cell lymphomas ("PTCL"), cutaneous T-cell lymphomas ("CTCL"), and other T- and NK-cell lymphomas. These are a heterogeneous group of lymphomas that are typically diagnosed in patients over 60 years of age, and have 5-year overall survivals that typically range from 20 – 50%, but may be as high as 70 – 90% for select subtypes. It is estimated in the U.S. that there are over 3,000 individuals diagnosed with a CD30+ lymphoma every year.

Limitations of Current Treatment Options

Current treatment options mainly consist of chemotherapy regimens, which generally have poor outcomes. Additionally, given the heterogeneity of CD30+ lymphomas, clinically-validated treatment options across CD30+ lymphomas are limited.

Our Approach

NTLA-6001 is our wholly owned allogeneic CAR-T development candidate targeting CD30 for the treatment of CD30-expressing hematologic cancers including relapsed or refractory classical Hodgkin's Lymphoma ("cHL"). NTLA-6001 is developed using our proprietary allogeneic cell engineering platform, which leverages a novel combination of sequential gene edits. Preclinical data presented on its differentiated allogeneic engineering platform showed allogeneic T cells were shielded from immune rejection, both host T and NK cell attack. We are advancing NTLA-6001 towards IND-enabling activities and plan to present preclinical data in support of NTLA-6001 at an upcoming scientific conference this year.

Ex Vivo *Research Programs*

We are developing engineered cell therapies to treat a range of hematological and solid tumors. We are pursuing modalities, such as TCR, with broad potential in multiple indications. We continue to advance efforts to move from autologous to allogeneic therapies and from liquid to solid tumors. Our researchers are developing and improving cell-engineering manufacturing and delivery processes that, we believe, may allow us to deliver T cell therapies with high levels of editing, robust levels of cell expansion, desirable memory phenotypes, improved function and no translocations above background levels.

Our proprietary T cell engineering process using LNPs to engineer cell therapies enables multiple, sequential gene edits. We have shared preclinical data demonstrating that our LNP-based engineering technology is a significant improvement over electroporation, the standard engineering process used, to introduce proteins and nucleic acids into cells. The resulting T cells engineered with LNPs had improved cell properties and performance both *in vitro* and *in vivo* as compared to electroporation. The data support the ability of our platform to be used for a variety of targeting

modalities, including CAR and TCRs, and to support both autologous and allogeneic T cell candidates. The LNP-based approach is already being used for NTLA-5001.

In March 2021, we presented our first preclinical data set on our novel, proprietary cytosine deaminase base editor technology. We demonstrated the technology's potential for enhanced cell engineering, with multiple simultaneous gene knockouts achieving >90% T cell editing efficiency and no detectable increase in translocation above background levels.

Novartis-Led Sickle Cell Disease and Other Research Programs

In December 2019, the research term under our collaboration agreement with Novartis entered into in 2014 (the "2014 Novartis Agreement") ended, although the 2014 Novartis Agreement remains in effect. Under the 2014 Novartis Agreement, Novartis has selected particular CAR-T cell, HSC and OSC targets for continued development. Novartis has initiated clinical studies for OTQ923 and HIX763, two therapeutic candidates, based on CRISPR/Cas9 editing of HSCs that resulted from our research collaboration with Novartis. Novartis is currently recruiting patients for its Phase 1/2 study of these investigational candidates for treatment of sickle cell diseases. Novartis is developing several other product candidates arising from the 2014 Novartis Agreement. For more information regarding our collaboration with Novartis, see the section below entitled **"Collaborations** - ***Novartis Institutes for BioMedical Research, Inc."***

Our Genome-Editing Platform

Our robust genome-editing platform forms the foundation of our full-spectrum therapeutic product pipeline based on CRISPR/Cas9 and derivative technologies. Our modular platform is based on our proprietary components that can serve both *in vivo* and *ex vivo* programs, as well as our delivery technologies that can be used in either program type. In addition to the components described below, we have developed robust, high volume (high throughput) capabilities centering around enabling strategic target identification and validation that we believe will provide us with a competitive advantage in creating successful therapeutic products.

We are committed to staying at the forefront of the genome editing revolution and will continue to advance our technology platform through a mix of both internal research and development and external opportunities in order to potentially serve more patients across a broad set of diseases. With proprietary CRISPR/Cas9-based technology at the core of our platform, we continue to add new capabilities to expand our current solutions for therapeutic application. These additions include our proprietary base editor, as well as novel CRISPR-derivative enzymes, which provide us with the capabilities to achieve multiple editing strategies. Consistent with our ambitions to build the broadest genome editing toolbox, in February 2022, we announced the acquisition of Rewrite Therapeutics, Inc. ("Rewrite"), a private biotechnology company focused on advancing novel DNA writing technologies. Rewrite has developed promising new tools for genome editing, including DNA writing via CRISPR/Cas9-guided polymerases. These new tools may enable targeted corrections, insertions, deletions, and the full range of single-nucleotide changes, which could provide new ways to edit disease-causing genes and broaden the therapeutic potential for genomic medicines.

Informatics

We have built a high throughput, scalable data processing and analysis, or informatics, infrastructure to support various aspects of our platform, including gRNA selection and evaluation of on- and off-target editing in cells. Depending on the desired editing strategy, we use proprietary bioinformatics methods to design candidate guides and select those that we believe are both highly specific and have high cutting efficiency. As we grow our experimental data set, we continue to incorporate gRNA performance into our algorithms to improve their predictive power.

Guide RNA qualification

As part of the process to identify gRNAs for potential development candidates, we screen numerous gRNAs for their ability to generate the required edit at the genomic site of interest, called on-target activity, as well as any potential propensity to generate unwanted events at other sites in the genome, also known as off-target activity. To evaluate on-target activity, we use high throughput sequencing methods to analyze the genomes of edited cells, allowing us to assess overall editing efficiency and to examine the nature of the editing events, such as specific insertions or deletions.

For gRNAs selected through our primary on-target screens, we perform a variety of analyses to look for possible off-target editing events, including bioinformatic evaluations and experimental methods. Part of our approach involves identifying candidates with no or few off-target sites based on experimental measurements of genome-wide DNA breaks, as well as targeted sequencing of such candidate sites to evaluate actual off-target editing events in relevant cell types. We continue to optimize our gRNA qualification capability over time by increasing our throughput, improving our off-target activity detection accuracy and increasing our bioinformatics predictive accuracy.

Guide RNA format

CRISPR/Cas9 systems can function with gRNAs having a variety of modifications, such as changes to the gRNA sequence or chemical modifications of nucleotides. As part of our development of CRISPR/Cas9 therapeutics, we have engineered modified gRNAs to, for example, improve editing efficiency, specificity and stability inside cells, as well as to reduce the likelihood of an immune response. We believe our work in this area will allow us to develop the most appropriate gRNAs for therapeutic applications.

Nuclease

Our current preferred Cas9 protein is derived from a species of bacteria called *S. pyogenes* (“*Spy*”), which is the Cas9 used in the vast majority of published CRISPR/Cas9 literature to date. We are exploring other naturally occurring Cas9 proteins and nucleases from other bacteria, which may differ from *Spy* Cas9 in aspects such as specificity, size or mechanism of DNA recognition, binding and cutting. We are pursuing these alternative Cas9 forms and other nucleases through ongoing internal work, collaborations with our existing partners and scientific founders, and in-licensing opportunities. We also are investigating targeted modifications of Cas9 that can modulate DNA activity by mechanisms other than cleavage. We believe that different therapeutic applications may be best addressed using different forms of Cas9 or other nucleases, depending on the target cell or tissue of interest, the delivery method and the desired type of edit.

Cas9 Edit Type

Knockout

The CRISPR/Cas9 system, by itself, primarily functions to cut DNA, while the resulting desired therapeutic editing events are performed by the cell, subsequent to the cut, as the cell seeks to rejoin the cut ends. One type of edit is caused by a DNA repair mechanism that is prone to losing or adding short lengths of DNA around the cut site. The resulting changes in the DNA impair the function of any encoded protein, causing a knockout edit. Using a combination of our informatics, gRNA qualification and format, and nuclease platform capabilities, we have developed an efficient process to identify gRNAs that create this kind of edit at high frequency while possessing high specificity for the on-target site and no substantial off-target effects.

Based on both NHP and rodent disease models, we have demonstrated the ability to knockout multiple targets in the liver, including *TTR*, *KLKB1*, *SERPINA1*, hydroxyacid oxidase 1 (“*HAO1”)* and lactate dehydrogenase A (“*LDHA”)*. We believe these data demonstrate the modular nature of our proprietary LNP delivery system.

Gene Insertion

While knockout edits can be made using solely a Cas9 protein and gRNA, other kinds of editing, involving repair and insertion, additionally require a template DNA that contains a desired genomic sequence that may be inserted or used to correct a patient’s original sequence. For *ex vivo* applications, in addition to delivering a Cas9-gRNA complex to cleave the cellular DNA sequence at the desired location, the desired DNA template may be delivered by physical means such as LNP in combination with a Cas9-gRNA complex, or by other means such as viral vectors or chemical means. For *in vivo* applications, we have developed combination approaches for delivering the editing machinery by LNP, and the repair and insertion templates by AAV vectors. We are currently working closely with Regeneron to advance insertion programs for the treatment of hemophilia A and hemophilia B and are also independently evaluating the hybrid LNP-AAV delivery system for targeted insertion across several other transgenes of interest in an *in vivo* setting.

Consecutive Editing

Consecutive editing is any combination of knockout and insertion strategies. At the 2021 European Society of Gene and Cell Therapy Annual Meeting, we reported the first demonstration of a consecutive *in vivo* gene insertion and knockout in an NHP model of AATD. The consecutive edits led to durable production of normal human A1AT protein levels and reduction of endogenous disease-associated protein in the ongoing NHP study.

In Vivo *Delivery*

We are focusing our initial *in vivo* applications in the liver, where we deliver the CRISPR/Cas9 therapy intravenously to patients using our proprietary LNP platform.

Our proprietary LNPs encapsulate the therapeutic cargo, providing it with stability, selective delivery, improved pharmacologic properties and controlled circulation time. Our therapeutic cargo is designed to degrade relatively quickly, resulting in transient expression of Cas9. We see multiple advantages of using LNPs as an *in vivo* delivery vehicle, particularly as optimized by us for delivery of the CRISPR/Cas9 system or its components. First, LNPs have been clinically validated as an effective delivery vehicle of therapeutic nucleic acids to the liver after intravenous administration. For example, Onpattro is an LNP-based, approved drug for delivery of small interfering RNA ("siRNA"). Clinical data also supports the use of LNP for delivery of mRNA for protein expression. LNPs have shown to have favorable tolerability in humans, with toxicities being dose-dependent, monitorable and reversible. Additionally, LNPs are chemically well-defined and have a completely synthetic route of manufacture, which permits greater scalability, product quality and controls. LNPs are tunable, do not exhibit cargo size limitations and can co-formulate different nucleic acid components, such as mRNA and gRNAs. There is no pre-existing immunity to the LNP or limiting de novo immunity after dosing, allowing for repeat dosing as required by the therapeutic approach. We are currently advancing our programs using our proprietary LNP delivery system, which uses a set of biodegradable, well-tolerated lipids, based on lipids originally developed by Novartis and in-licensed by us for use with all genome editing technologies, including CRISPR/Cas9 products. To date, we have successfully demonstrated well-tolerated *in vivo* editing in various animal models, including in mouse, rat and NHP livers, with a single dose of systemically delivered LNPs. In addition, we have moved into early-stage human clinical trials using LNPs as the delivery mechanism. Based on interim data reported from the first-in-human study of NTLA-2001, we have also successfully demonstrated LNP delivery of CRISPR/Cas9 is well-tolerated in humans.

We plan to continue to further improve on our LNP system to optimize delivery of a variety of CRISPR/Cas9 therapeutic components, including templates for repair and insertion edits. In parallel, we are exploring additional delivery vehicles, including synthetic particles and viral vectors. We also are developing delivery strategies that we believe will allow us to target other tissues.

Ex Vivo *Delivery*

Cellular therapies are based on the administration of engineered human cells that are modified to provide or restore necessary functions in the cells of patients, or to target and eliminate cells with harmful attributes, such as cancer cells. The cells to be modified *ex vivo* can come from the individual patient (autologous source) or from another individual (allogeneic source). The CRISPR/Cas9 system can be used to modify cells outside the body using clinically proven delivery methods, such as electroporation. We are exploring these standard methods in parallel with our own newly-developed proprietary *ex vivo* delivery methods, which may provide advantages such as increased delivery efficiency and cell viability.

Ex Vivo *Allogeneic Platform*

In October 2021, we shared the first preclinical data highlighting our proprietary allogeneic cell engineering platform, demonstrating its potential to prevent immune rejection of allogeneic T cells for application in TCR-T and CAR-T cell therapy. Our proprietary approach leverages a novel combination of sequential gene edits and does not rely on long-term, aggressive immune suppression of patients, or the selective knock out of class I proteins, approaches currently employed by others to address the challenge of host rejection of the adoptive cell therapy.

Collaborations and Other Arrangements

To accelerate the development and commercialization of CRISPR/Cas9-based products in multiple therapeutic areas, we have formed, and intend to seek other opportunities to form, strategic alliances with collaborators who can augment our leadership in CRISPR/Cas9 therapeutic development.

Regeneron Pharmaceuticals, Inc. ("Regeneron")

In April 2016, we entered into a license and collaboration agreement with Regeneron (the "2016 Regeneron Agreement"). The 2016 Regeneron Agreement has two principal components: (i) a product development component under which the parties will research, develop and commercialize CRISPR/Cas-based therapeutic products primarily focused on genome editing in the liver; and (ii) a technology collaboration component, pursuant to which the parties will engage in research and development activities aimed at discovering and developing novel technologies and improvements to CRISPR/Cas technology to enhance our genome editing platform. We may also access the Regeneron Genetics Center and proprietary mouse models to be provided by Regeneron for a limited number of our liver programs. At the inception of the 2016 Regeneron Agreement, Regeneron selected the first of its 10 targets, ATTR, which is subject to a co-development and co-promotion agreement between us and Regeneron (the "ATTR Co/Co").

On May 30, 2020, we entered into (i) amendment no. 1 (the "2020 Regeneron Amendment") to the 2016 Regeneron Agreement, (ii) co-development and co-funding agreements for the treatment of hemophilia A and hemophilia B (the "Hemophilia Co/Co") agreements and (iii) a stock purchase agreement. The collaboration expansion builds upon the jointly developed targeted transgene insertion capabilities designed to durably restore missing therapeutic protein, and to overcome the limitations of traditional gene therapy. The collaboration was extended until April 2024, at which point Regeneron has an option to renew for an additional two years. The 2020 Regeneron Amendment also grants Regeneron exclusive rights to develop products for five additional *in vivo* CRISPR/Cas-based therapeutic liver targets and non-exclusive rights to independently develop and commercialize up to 10 *ex vivo* gene edited products made using certain defined cell types. Refer to Note 9 to our consolidated financial statements of this Annual Report on Form 10-K for a detailed description of the terms related to the 2016 Regeneron Agreement and the 2020 Regeneron Amendment.

AvenCell Therapeutics, Inc. ("AvenCell")

On July 30, 2021, we finalized a transaction in which we, Cellex Cell Professionals GmbH ("Cellex") and funds managed by Blackstone Life Sciences Advisors L.L.C. ("BXLS") established a new universal CAR-T cell therapy company, AvenCell, and entered into two agreements with AvenCell: (i) a license and collaboration agreement (the "LCA"), under which we will collaborate to develop allogeneic universal CAR-T cell therapies and granted AvenCell a license to develop and commercialize genome edited universal CAR-T cell therapies (limited to its use with their switchable, universal CAR-T cell UniCAR and RevCAR platforms); and (ii) a co-development and co-funding agreement (the "AvenCell Co/Co") under which we will co-develop and co-commercialize allogeneic universal CAR-T cell products for an immuno-oncology indication.

In addition to the license, we will collaborate with AvenCell on at least seven universal CAR-T cell products that combine our allogeneic T cell technology with AvenCell's switchable, universal CAR-T cell technology, referred to as the ("Allo Collaboration"). Additionally, AvenCell will pay us to provide supply and manufacturing services for them, including supplying good manufacturing practice ("GMP") CRISPR reagents to support the research and development of all CRISPR Products (as defined in the LCA) under the Allo Collaboration until the completion of the first Pivotal Trial (as defined in the LCA) of the first such CRISPR Product. We will also have one additional option to enter into a second co-development and co-funding agreement from selected allogeneic universal CAR-T cell therapy products that the parties intend to develop under the Allo Collaboration for a payment of $30.0 million to AvenCell.

In exchange for the license, we received a 33.33% equity interest in AvenCell at the time of the initial closing. Refer to Notes 9 and 10 to our consolidated financial statements of this Annual Report on Form 10-K for additional information related to the terms of the agreements between us and AvenCell.

SparingVision SAS ("SparingVision")

In October 2021, we and SparingVision, a genomic medicine company developing vision saving treatments for ocular diseases, entered into a license and collaboration agreement (the "LCA"), to develop novel genomic medicines utilizing CRISPR/Cas9 technology for the treatment of ocular diseases. We will grant SparingVision exclusive rights to our proprietary *in vivo* CRISPR/Cas9-based genome editing technology for up to three ocular targets addressing diseases with significant unmet medical need. In addition, the parties will research and develop novel self-inactivating AAV vectors and LNP-based approaches to address delivery of CRISPR/Cas9 genome editing reagents to the retina. SparingVision will lead and fund the preclinical and clinical development for the genome editing product candidates pursued under the collaboration.

In exchange for the license, we received an 11% equity ownership in SparingVision as of the closing date as well as three warrants attached to each share received for the right to purchase additional shares at designated prices that are subject to certain vesting conditions. We will also be eligible to receive certain research, development and commercial milestone payments (up to approximately $200 million per product) as well as royalties on potential future sales of products arising from the collaboration. We will have an option to obtain exclusive U.S. commercialization rights for product candidates arising from two of three collaboration targets. For product candidates we choose to option, we will pay an opt-in fee between $10.0 million and $20.0 million depending on the stage of development of the target, reimburse certain costs, share in 50% of development costs and pay royalties to SparingVision on U.S. sales. Refer to Notes 9 and 10 to our consolidated financial statements of this Annual Report on Form 10-K for additional information related to the terms of the agreement between us and SparingVision.

Kyverna Therapeutics, Inc. ("Kyverna")

In December 2021, we entered into a licensing and collaboration agreement with Kyverna, a cell therapy company engineering a new class of therapies for autoimmune and inflammatory diseases, for the development of an allogeneic CD19 CAR-T cell therapy for the treatment of a variety of B cell-mediated autoimmune diseases. We granted Kyverna rights to our proprietary *ex vivo* CRISPR/Cas9-based allogeneic platform for the development of KYV-201, an allogeneic CD19 CAR-T cell investigational candidate for the treatment of select autoimmune diseases. This is a novel approach aimed at targeting CD19 for inflammatory diseases as compared to traditional oncology indications. Kyverna will lead and fund preclinical and clinical development for KYV-201 and we will be eligible to receive certain development and commercial milestone payments, as well as low-to-mid-single-digit royalties on potential future sales. We may also exercise an option to lead U.S. commercialization for KYV-201 under a co-development and co-commercialization agreement. If we choose to co-develop and co-commercialize KYV-201, we will pay an opt-in fee of $5.0 million and share in 50% of development costs and future net profit and/or loss arising from commercializing KYV-201 in the U.S. Kyverna retains all rights outside of the U.S., and we will receive low-to-mid-single-digit royalties on net sales generated outside of the U.S.

In exchange for the license, we received an equity ownership of preferred stock in Kyverna. We separately made an additional investment in Kyverna, purchasing incremental shares of Kyverna's preferred stock in exchange for $3.0 million in cash, bringing our investment to approximately 7% ownership in Kyverna at the time of closing. Refer to Notes 9 and 10 to our consolidated financial statements of this Annual Report on Form 10-K for additional information related to the terms of the agreement between us and Kyverna.

ONK Therapeutics, Ltd ("ONK")

In February 2022, we announced a license, collaboration and option agreement with ONK for the development of engineered NK cell therapies for the treatment of cancer. The agreement grants ONK a non-exclusive license to our proprietary *ex vivo* CRISPR/Cas9-based genome editing platform and its LNP-based delivery technologies for development of up to five allogeneic NK cell therapies. ONK will be responsible for preclinical and clinical development for the engineered NK cell therapies enabled by the agreement. We will be eligible to receive up to $184 million per product in development and commercial milestone payments, as well as up to mid-single digit royalties on potential future sales. In addition, the agreement grants us options to co-develop and co-commercialize up to two products worldwide with rights to lead commercialization in the U.S.

IRCCS Ospedale San Raffaele ("OSR"), Milan

In June 2017, we entered into a collaboration and license option agreement with Ospedale San Raffaele, Milan (the "OSR Agreement"). The research collaboration between the parties involves research related to novel WT1 TCRs, and modification of the same with CRISPR/Cas9 to treat cancers, particularly AML and solid tumors. We have the exclusive right to use the IP developed under the collaboration to develop therapeutic products. Discoveries from this collaboration are included in our first *ex vivo* product candidate directed to AML, which we refer to as NTLA-5001. The OSR Agreement also granted us an option to obtain an exclusive license to certain patent families of OSR and IP developed in the collaboration to research, develop and commercialize engineered WT1 TCR T cells comprising the WT1 TCRs identified by OSR in the collaboration. In December 2019, we exercised this option.

Under the OSR Agreement, we will owe OSR a royalty below 1% on net sales of licensed products sold by us and a share in the low- to mid-single digit percentage of sublicense revenue that we receive if we sublicense our rights under the OSR Agreement to a third party. In June 2021, the research collaboration agreement was amended to add certain research activities and extend the research term through November 2022. The OSR Agreement will continue until the date when no royalty or other payment obligations are due, unless earlier terminated in accordance with the terms of the agreement**.**

Rewrite Therapeutics Inc. ("Rewrite")

In February 2022, we entered into an agreement to acquire Rewrite, a private biotechnology company focused on advancing novel DNA writing technologies. Rewrite has developed potentially promising novel tools for genome editing, including DNA writing via CRISPR/Cas9-guided polymerases. These tools may allow for targeted corrections, insertions, deletions, and the full range of single-nucleotide changes, which could provide new ways to edit disease-causing genes and broaden the therapeutic potential for genomic medicines. Rewrite also has developed an approach that could improve the efficiency of genome editing in non-dividing cell types, a key challenge for some existing editing platforms. We believe Rewrite's technology could likely be delivered using our LNP technology and AAV vectors.

Under this agreement, we paid Rewrite's former stockholders and optionholders (the "Rewrite Holders") upfront consideration in an aggregate amount of approximately $45.0 million payable in cash, excluding customary purchase price adjustments. In addition, the Rewrite Holders will be eligible to receive up to an additional $155.0 million in milestone payments upon the achievement of certain pre-specified research and regulatory approval milestones, payable through a mixture of $130.0 million in cash and $25.0 million in shares of common stock.

Novartis Institutes for BioMedical Research, Inc. ("Novartis")

In December 2014, we entered into a license and collaboration agreement with Novartis (the "2014 Novartis Agreement"), primarily focused on the research of new *ex vivo* CRISPR/Cas9-edited therapies using CAR-T cells and HSCs. The agreement was amended in December 2018 to also include research on OSCs. In December 2019, per the terms of the 2014 Novartis Agreement, the research term ended, although the 2014 Novartis Agreement remains in effect, for which we will be eligible to receive milestone and royalty payments in the future. In June 2021, we entered into Amendment No. 3 (the "Amendment") to the 2014 Novartis Agreement. The Amendment amends Novartis' rights with respect to all of the CAR-T Therapeutic Targets (as defined in the 2014 Novartis Agreement) that Novartis selected under the 2014 Novartis Agreement, including (a) making Novartis' license non-exclusive for such CAR-T Therapeutic Targets, (b) removing Novartis' diligence and related reporting obligations for such CAR-T Therapeutic Targets, and (c) refining the scope of Novartis' sublicense rights for such CAR-T Therapeutic Targets. We made a one-time payment to Novartis of $10.0 million within 30 days after the effective date of the Amendment, which was recorded as research and development expense in the consolidated statement of operations and comprehensive loss for the year ended December 31, 2021. Since December 31, 2020, there have been no other material changes to the key terms of the 2014 Novartis Agreement and the Novartis Amendment. For further information on the terms and

conditions of these agreements, refer to Note 9 to our consolidated financial statements of this Annual Report on Form 10-K.

Potential Future Collaborations

We view strategic partnerships as important drivers for helping accelerate our goal of rapidly treating patients. The potential application of CRISPR/Cas9 is extremely broad, and we plan to continue to identify partners who can contribute meaningful resources and insights to our programs and allow us to more rapidly bring scientific innovation to a broader patient population.

Intellectual Property

We believe we are well positioned in terms of our IP because we:

- have built, and intend to expand, a broad worldwide portfolio of IP, including patents and patent applications, in areas relevant to the development and commercialization of human therapeutic products using CRISPR/Cas9 technology;
- protect our IP by maintaining trade secrets relating to our proprietary technology innovations and know-how; and
- intend to take additional steps, where appropriate, to further protect our IP rights, including, for example, through the use of copyright protection, trademark and regulatory protections available via orphan drug designations, data exclusivity, market exclusivity and patent term extensions.

Our licensed patent portfolio encompasses foundational filings on the use of CRISPR/Cas9 systems for genome editing, improvement modifications of these CRISPR systems, LNP technologies, TCRs for specific targets, and cell expansion technology relevant to stem cell-based therapies. We access these patent estates from licensors, including Caribou, Novartis and OSR. We also actively apply for, maintain, and plan to defend and enforce, as needed, our internally developed and externally licensed patent rights. Furthermore, we continue to search for and evaluate opportunities to in-license IP relevant to our targeted therapeutic programs and platforms and to develop and acquire new IP in collaboration with third parties.

In addition to our in-licensed IP, our IP portfolio includes over 40 patent families filed since 2015 covering solely or jointly owned technologies that we have developed independently or through our collaborations with Novartis, Regeneron and OSR. The patent families claim inventions relating to CRISPR/Cas9 improvements, methods for delivering CRISPR/Cas9 complexes, methods of treating diseases using CRISPR/Cas9 genome editing, and methods for analyzing editing events, among others. Patents resulting from our internal portfolio, if issued, would expire no earlier than 2036.

We actively apply for, maintain, and plan to defend and enforce, as needed, our internally developed and externally licensed patent rights. Furthermore, we continue to search for and evaluate opportunities to in-license IP relevant to our targeted therapeutic programs and platforms and to develop and acquire new IP in collaboration with third parties.

Caribou Biosciences In-Licensed Intellectual Property (“Caribou”)

In July 2014, we entered into a license agreement with Caribou (the “Caribou License”), as subsequently amended and supplemented, for an exclusive, worldwide license for human therapeutic, prophylactic, and palliative uses, except for anti-fungal and anti-microbial uses, defined in the license agreement as our field of use, of any CRISPR/Cas9-related patents and applications owned, controlled or licensed by Caribou as well as companion diagnostics to our product or product candidates. The license agreement also included exclusive rights in our field of use to any CRISPR/Cas9-related IP developed by Caribou after July 16, 2014 and through a cut-off date of January 30, 2018. The agreement further includes a non-exclusive research license to conduct research and development on product candidates and products.

The licensed Caribou patent portfolio includes several U.S. and foreign patents and patent applications owned or licensed by Caribou. Through January 30, 2018, Caribou had filed over 50 patent applications in the U.S. and internationally, which relate to the CRISPR/Cas platform, including modified and improved CRISPR/Cas9 systems or components, and methods of use that are part of our license. In addition, the licensed Caribou patent portfolio

includes an exclusive sublicense in our field of use to the Regents of the University of California ("UC") and University of Vienna's ("Vienna") rights in U.S. and foreign patent and patent applications covering the CRISPR/Cas9 technology, which they co-own with Dr. Emmanuelle Charpentier (collectively, the "UC/Vienna/Charpentier IP"). In July 2015, we exercised our option to include in the licensed Caribou patent portfolio the U.S. and foreign patent and patent applications owned or controlled by Pioneer Hi-Bred International ("Pioneer") and its affiliates. We have the right to grant sublicenses to the licensed Caribou patent portfolio to third parties in our field of use. Caribou retains the right to practice the licensed IP in all other fields, including for its own specific therapeutic product candidates outside our field of use. The UC/Vienna/Charpentier IP and Pioneer IP, and our rights to the same, are further described below.

We have agreed to pay 30.0% of Caribou's patent prosecution, filing and maintenance costs for the IP included in the license agreement, which has amounted to a total of $7.8 million incurred through December 31, 2021. Any patents that grant or have granted from these applications will expire in or after 2034, assuming payment of necessary maintenance fees. We also granted Caribou an exclusive, royalty-free, worldwide license, with the right to sublicense, to any CRISPR/Cas9 patents, patent applications and know-how in Caribou's retained fields of use owned or developed by us between July 16, 2014 and January 30, 2018. Caribou, which is obligated to pay a portion of our patent filing, prosecution and maintenance costs for any such licensed IP, also has an option to sublicense any CRISPR/Cas9 IP in-licensed by us for uses and activities in its retained field of use.

The Caribou License terminates on the expiration of the last-to-expire patent right that is licensed to either party. We must use commercially reasonable and diligent efforts to research, develop, manufacture and commercialize at least one product covered by the licensed IP. Either party may terminate the agreement in the event of the other party's uncured material breach, bankruptcy or insolvency-related events, or breach of its obligations with respect to the included in-licenses.

On October 17, 2018, we initiated an arbitration proceeding against Caribou asserting that Caribou violated the terms and conditions of the Caribou License, as well as other contractual and legal obligations to us, by using and seeking to license to third parties two patent families relating to specific structural or chemical modifications of gRNAs, that were invented or controlled by Caribou, in our exclusive human therapeutic field, before January 30, 2018. Caribou has asserted that the two families of IP are outside the scope of our license. In the arbitration, we seek a declaration that the disputed IP is included within the scope of our exclusive license, an award of compensatory, consequential and punitive damages based on Caribou's conduct, and an injunction prohibiting Caribou from licensing or using this IP in our exclusive human therapeutics field, among other claims.

On September 26, 2019, we announced that the arbitration panel issued an interim award concluding that both the structural and chemical gRNA modification technologies were exclusively licensed to us by Caribou pursuant to the Caribou License. Nevertheless, the arbitration panel, solely with respect to the clinically modified gRNAs, stated that it will declare that Caribou has an equitable "leaseback", which it described as exclusive, perpetual and worldwide (the "Caribou Award"). The Caribou Award does not include the structural guide modifications IP also at issue in the arbitration, any other IP exclusively licensed or sublicensed by Caribou to us under the Caribou License (including but not limited to the UC/Vienna/Charpentier IP), or any other of our IP. On February 6, 2020, the panel clarified that the Caribou Award is limited to a particular on-going Caribou program, which seeks to develop a CAR-T cell product directed at CD19.

On June 16, 2021, we executed a Leaseback Agreement ("Leaseback") with Caribou, which settled the ongoing arbitration. Under the Leaseback negotiated by the parties, in exchange for an upfront payment, potential future regulatory and sales milestones, and single-digit royalties payable by Caribou, we have agreed to leaseback or sublicense certain CRISPR/Cas9 IP, including our chemical gRNA modification technology and foundational CRISPR/Cas9 IP, to Caribou so that it can develop and commercialize CB-010. Caribou also will be responsible for any payments required in respect of our in-licensed IP. We recorded $1.0 million within "Collaboration Revenue" in the second quarter of 2021 on the condensed consolidated statements of operations and comprehensive loss for an upfront payment related to the Leaseback and received the payment in the third quarter of 2021. After the execution of the Leaseback Agreement, the arbitration concluded.

The Regents of the University of California and the University of Vienna Intellectual Property

The UC/Vienna/Charpentier IP covers methods of use and compositions relating to engineered CRISPR/Cas9 systems for, among other things, cleaving or editing DNA and altering gene product expression in various organisms, including humans. The earliest claimed priority date for the patents in the UC/Vienna/Charpentier IP is May 25, 2012. As of December 31, 2021, this family includes over 40 issued patents in the U.S. and over 40 granted patents outside the U.S., including for example the U.K., Australia, China, Japan, Israel, Mexico and the approximately 40 countries that are members of the European Patent Convention. Applications continue to be prosecuted in the United States Patent and Trademark Office ("USPTO") and other patent agencies across the world. Patents issued from this family will expire in or after 2033, if successfully maintained.

In April 2013, Caribou entered into an exclusive, worldwide license in all fields, with the right to sublicense, for this patent family with UC/Vienna solely under UC/Vienna ownership rights. Caribou's license remains in effect for the life of the last-to-expire patent or last-to-be-abandoned patent application licensed, whichever is later. Through our license agreement with Caribou, we have an exclusive sublicense to UC/Vienna's interest in this foundational CRISPR/Cas9 patent family for use in human therapeutics, except for anti-fungal and anti-microbial uses as defined in the license agreement as our field of use. For therapeutic products covered by this license and their companion diagnostics, we will owe mid-single-digit royalties on net sales. In addition, we may be subject to milestone payments of $0.1 million upon the first filing of an IND application, a total of $0.5 million for Phase II and Phase III clinical trials, $0.5 million to $1.0 million for each of the first three approved new drug applications or biologics license applications in the U.S., and $0.2 million for each of the first three approved indications in Europe. Caribou has the right to terminate its agreement with UC/Vienna at any time or the agreement may be terminated by UC/Vienna due to an uncured material breach. We cannot guarantee that Caribou will maintain the UC/Vienna license for its full term. Should the license between Caribou and UC/Vienna be terminated for any reason, any compliant Caribou sublicenses as of the termination date will remain in effect and will be assigned to UC/Vienna in place of Caribou. Specifically, if we are in compliance with our obligations under our sublicense and Caribou and UC/Vienna terminate their agreement, UC/Vienna would replace Caribou as our licensor.

On April 13, 2015, UC/Vienna/Charpentier jointly filed a request with the USPTO asking that an interference be declared between a UC/Vienna/Charpentier patent application and certain patents issued to the Broad Institute, Massachusetts Institute of Technology, and the President and Fellows of Harvard College (collectively, the "Broad Institute patent family" or the "Broad"), which claim aspects of CRISPR/Cas9 systems and methods to edit genes in eukaryotic cells, including human cells. An interference is an adversarial proceeding conducted by the USPTO's Patent Trial and Appeal Board (the "PTAB") to determine the initial inventor of a particular invention claimed in U.S. patents and patent applications owned by different parties. On January 11, 2016, the PTAB declared an interference involving one UC/Vienna/Charpentier application, 12 Broad issued patents and a Broad patent application. In the order declaring the interference, the PTAB designated UC/Vienna/Charpentier the "Senior Party" and the Broad the "Junior Party". In March 2016, the PTAB re-declared the interference to add an additional U.S. patent application owned by the Broad. On February 15, 2017, the PTAB dismissed the proceeding finding that the parties' respective patent claims involved in the interference were distinct such that they did not meet the legal requirement to proceed with the interference. Specifically, the PTAB concluded that the Broad's claims were directed to the use of CRISPR/Cas9 only in eukaryotic cells and, thus were patently distinct from UC/Vienna/Charpentier's claims, which were directed to the use of CRISPR/Cas9 in all settings. As a result of this proceeding's dismissal, the PTAB did not make a decision regarding which party actually first invented the use of CRISPR/Cas9 systems and methods to edit genes in eukaryotic cells. After considering UC/Vienna/Charpentier's appeal, on September 10, 2018, the U.S. Court of Appeals for the Federal Circuit affirmed the PTAB's decision to terminate the interference proceeding. The time for UC/Vienna/Charpentier to ask for a rehearing by the Federal Circuit or permission from the U.S. Supreme Court to appeal has expired. Accordingly, the Federal Circuit returned the UC/Vienna/Charpentier patent application at issue in the terminated interference to the USPTO. On April 23, 2019, the USPTO issued to UC/Vienna/Charpentier the patent, which covers generally the use of the CRISPR/Cas9 technology using a single RNA guide in any setting, including cellular settings.

On June 25, 2019, the PTAB declared another interference between the UC/Vienna/Charpentier and the Broad, which specifically involves their respective eukaryotic patent families, to determine which research group first invented the use of the CRISPR/Cas9 technology in eukaryotic cells and, therefore, is entitled to the patents covering the invention. On August 26, 2019, the PTAB redeclared the interference to include additional UC/Vienna/Charpentier patent applications covering the invention that had also been found allowable by the USPTO. As of December 31, 2020, the

interference involves 14 allowable patent applications from the UC/Vienna/Charpentier eukaryotic patent family and 13 patents and one patent application from the Broad Institute patent family. The PTAB held a hearing in this interference on February 4, 2022.

On December 14, 2020, the PTAB declared an additional interference between the same 14 allowable patent applications in the UC/Vienna/Charpentier portfolio, and one patent application owned by ToolGen, Inc. ("ToolGen"), that also purports to cover the use of CRISPR/Cas9 for gene editing in eukaryotic cells.

If either the Broad or ToolGen were to succeed in their respective interference, the prevailing party or parties could seek to assert its issued patents against us based on our CRISPR/Cas9-based activities, including product commercialization. Defense of these claims, regardless of their merit, would involve substantial litigation expense, would be a substantial diversion of management and other employee resources from our business and may impact our reputation. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties or redesign our infringing products, which may not be feasible or require substantial time and monetary expenditure. In that event, we could be unable to further develop and commercialize our product candidates, which could harm our business significantly.

Pioneer Hi-Bred International (DuPont Company) Intellectual Property

Pioneer Hi-Bred International and its affiliates, including the DuPont Company, have licensed to Caribou on a worldwide basis, various patent families relating to CRISPR/Cas systems, components and methods of use generally and CRISPR/Cas9 specifically in certain fields, which include Intellia's field of use under our license agreement with Caribou. In July 2015, we exercised our option under the license agreement with Caribou to sublicense these Pioneer patent families in our field of use. The license from Pioneer to Caribou will expire upon the expiration, abandonment or invalidation of the last patent or patent application licensed from Pioneer to Caribou.

The licensed Pioneer portfolio includes a family of applications filed by Vilnius University that discloses the components of a CRISPR/Cas9 system required for gene editing in non-bacterial organisms. The USPTO has issued patents to Vilnius University with claims covering the in vitro assembly and use of a recombinant CRISPR/Cas9 complex to modify DNA. Patents obtained from this patent family will expire in or after 2033, assuming payment of necessary maintenance fees. We cannot ensure that these additional applications in this family will lead to issued claims that cover our products or activities.

Invention Management Agreement

On December 15, 2016, we entered into a Consent to Assignments, Licensing and Common Ownership and Invention Management Agreement (the "Invention Management Agreement"), with UC, Vienna, Dr. Charpentier, Caribou, CRISPR Therapeutics AG, ERS Genomics Ltd. and TRACR Hematology Ltd. Under the Invention Management Agreement, Dr. Charpentier retroactively consented to UC/Vienna's CRISPR/Cas9 license to Caribou as well as Caribou's sublicensing to Intellia certain of its rights to the UC/Vienna/Charpentier CRISPR/Cas9 IP, subject to the restrictions of our license from Caribou. Under the agreement, the parties commit to maintain and coordinate the prosecution, defense and enforcement of the CRISPR/Cas9 foundational patent portfolio worldwide, and each of the co-owners of the IP grants cross-consents to all existing and future licenses and sublicenses based on the rights of another co-owner. The Invention Management Agreement also includes retroactive approval by certain parties of certain prior assignments of interests in patent rights to other parties, and provides for, among other things, (i) good faith cooperation among the parties regarding patent maintenance, defense and prosecution, (ii) cost-sharing arrangements, and (iii) notice of and coordination in the event of third-party infringement of the subject patents. Unless earlier terminated by the parties, the Invention Management Agreement will continue in effect until the later of the last expiration date of the UC/Vienna/Charpentier patents underlying the CRISPR/Cas9 technology, or the date on which the last underlying patent application is abandoned.

Novartis In-Licensed Intellectual Property

The 2014 Novartis Agreement grants us worldwide, non-exclusive, royalty-free rights to a portfolio of 14 Novartis patent families containing granted patents and pending applications in the U.S. and internationally relating to LNP compositions, methods of use and modified nucleic acids. The license under the 2014 Novartis Agreement permits us

to use the Novartis LNPs to develop therapeutic, prophylactic, and palliative CRISPR-based *in vivo* products. Under a December 2018 amendment to the 2014 Novartis Agreement, we obtained rights to use these LNPs both *in vivo* and *ex vivo* for any genome editing product. The licensed patent will expire by or after December 2030. The term of the license continues until the expiration of the last-to-expire patent right that is licensed to either party. If we attempt to challenge any of the patents in the licensed families, Novartis may terminate the license on a patent-by-patent basis. We cannot guarantee that our products or delivery methods will be covered by issued claims in these families.

In addition, under the 2014 Novartis Agreement, Novartis has also granted us rights to use its proprietary small molecule for HSC expansion. Our rights to this technology are subject to a single-digit royalty based on whether we develop and commercialize the relevant product solely or in collaboration with another third party.

Under the 2014 Novartis Agreement, any platform IP developed as part of the collaboration is owned solely by us, while all other IP developed within the collaboration, including product-based IP, is jointly owned by us and Novartis. We cannot guarantee that IP filed based on collaboration data will result in issued claims covering our products or delivery methods. Under our agreement with Novartis, as amended, we have also granted Novartis a sublicense to the IP we license under our agreement with Caribou for the Novartis-selected HSC, CAR-T and OSC products, with such sublicense being exclusive as long as Novartis uses commercially reasonable efforts to develop and commercialize those products.

Manufacturing

We have entered into certain manufacturing and supply arrangements with third-party suppliers to support production of our product candidates and their components. We plan to continue to rely on these qualified third-party organizations and our own capabilities to produce or process bulk compounds, formulated compounds, viral vectors or engineered cells for IND-supporting activities and to supply materials for clinical trials. We expect that clinical and commercial quantities of any *in vivo* product or engineered cells that we may seek to develop will be manufactured in GMP compliant facilities and by processes that comply with FDA and other regulatory agency requirements. At the appropriate time in the product development process, we will determine whether to establish manufacturing facilities or continue to rely on third parties to manufacture commercial quantities of any products that we may successfully develop. In certain instances, we may consider building our own commercial infrastructure.

Competition

The biotechnology and pharmaceutical industries are extremely competitive in the race to develop new products. While we believe we have significant competitive advantages with our industry-leading expertise in genome editing, clinical development expertise and dominant IP position, we currently face and will continue to face competition for our development programs from companies that use genome editing or gene therapy development platforms and from companies focused on more traditional therapeutic modalities such as small molecules and antibodies. The competition is likely to come from multiple sources, including large and specialty pharmaceutical and biotechnology companies, academic research institutions, government agencies and public and private research institutions. Many of these competitors may have access to greater capital and resources than us. For any products that we may ultimately commercialize, not only will we compete with any existing therapies and those therapies currently in development, but we will also have to compete with new therapies that may become available in the future.

Competitors in our efforts to provide genetic therapies to patients can be grouped into at least three sets based on their product discovery platforms:

Our platform and product foci are on the development of therapies using CRISPR/Cas9 gene-editing technology. Genome editing companies focused on CRISPR based technologies include: Beam Therapeutics Inc., Caribou Biosciences, Inc., CRISPR Therapeutics AG, Editas Medicine, Inc., Verve Therapeutics Inc. and ToolGen, Inc.

There are also companies developing therapies using additional gene-editing technologies, which include Allogene Therapeutics, Inc., bluebird bio, Inc., Cellectis S.A., Precision Biosciences, Inc., Sangamo Therapeutics, Inc., Homology Medicines, Inc., Poseida Therapeutics, Inc. and Prime Medicine, Inc.

We are also aware of companies developing therapies in various areas related to our specific research and development programs. In *ex vivo*, these companies include Allogene Therapeutics, Inc., Precision BioSciences, Inc., CRISPR Therapeutics AG, Cellectis S.A. and Editas Medicine, Inc. In *in vivo*, these companies include Editas Medicine, Inc., CRISPR Therapeutics AG, Locus Biosciences, Inc., Excision Biotherapeutics, Inc. and Precision Biosciences, Inc.

Specific to our NTLA-2001 program, we are aware of other companies that are currently commercializing or developing products used to treat ATTR amyloidosis, including Pfizer, Inc., Alnylam Pharmaceuticals, Inc., Ionis Pharmaceuticals, Inc., BridgeBio Pharma Inc. and Novo Nordisk A/S.

Specific to our NTLA-2002 program, we are aware of other companies that are currently commercializing or developing products used to treat HAE including Takeda Pharmaceutical Company Limited, BioCryst Pharmaceuticals Inc., Pharming Group N.V., and CSL Limited.

Our competitors will also include companies that are or will be developing other genome editing methods as well as small molecules, biologics, *in vivo* gene therapies, engineered cell therapies (both autologous and allogeneic) and nucleic acid-based therapies for the same indications that we are targeting with our CRISPR/Cas9-based therapeutics.

Government Regulation and Product Approval

As a biopharmaceutical company, we are subject to extensive legal and regulatory requirements. For example, we need approval from regulatory agencies for our clinical studies, development, manufacturing, distribution, exportation and importation, commercialization, marketing and reimbursement relating to our products and product candidates. Relevant regulatory authorities include, but are not limited to, the FDA, the European Medicines Agency ("EMA"), the Commission of the European Union, EU member state agencies, such as Germany's Federal Institute for Drugs and Medicinal Devices ("BfArM"), and other countries' similar agencies, such as the MHRA, as well as agencies responsible for market access and pricing, such as the U.K. National Institute of Health and Care Excellence ("NICE").

We expect our future *in vivo* and *ex vivo* product candidates to be regulated as biologics. Biological products are subject to regulation under the Food, Drug and Cosmetic ("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 testing, manufacturing, safety, efficacy, labeling, packaging, storage, record keeping, distribution, reporting, advertising and other promotional practices involving drug and biological products. As is the case for all investigational products, before clinical testing of biological products in the U.S. may begin, we must submit an IND application to the FDA, which reviews the clinical protocol and other information, and the IND application must become effective before clinical trials may begin. Prior to initiating clinical trials in foreign countries, clinical trial applications ("CTAs") or other equivalent applications, similar to IND applications, must be approved.

Biologic products must be approved by the FDA before they may be legally marketed in the U.S. and by the appropriate foreign regulatory agencies before they may be legally marketed in foreign countries. 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.

Within the FDA, the Center for Biologics Evaluation and Research ("CBER") regulates biological products, including gene and cell therapies. CBER's Office of Tissues and Advanced Therapies ("OTAT") is responsible for oversight of gene therapy and related products, and the Cellular, Tissue and Gene Therapies Advisory Committee ("CTGTAC") advises CBER on its reviews. Human gene therapy products are defined as all products that mediate their effects by transcription or translation of transferred genetic material or by specifically altering host (human) genetic sequences. Some examples of gene therapy products include nucleic acids, genetically modified microorganisms (e.g., viruses, bacteria, fungi), engineered site-specific nucleases used for human genome editing, and *ex vivo* genetically modified human cells. FDA has published guidance documents related to, among other things, gene therapy products in general and their preclinical assessment, potency or other quality testing, and chemistry, manufacturing and control information in gene therapy IND applications, and long-term adverse event monitoring of clinical trial subjects; all of which are intended to facilitate industry's development of these products. More recently and as part of the implementation of the 21st Century Cures Act, FDA has issued a number of guidances pertaining to regenerative medicine advanced therapies, which include cell therapy, therapeutic tissue engineering products, human cell and tissue products and combination products using any such therapies or products. Additionally, 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. A number of guidances have been revised to reflect the growing knowledge and incorporation of newer technology, including certain considerations for genome editing. A small, but growing number of gene therapy products have been approved by regulatory agencies. In 2012, the EMA authorized the marketing of the first gene therapy product approved by regulatory authorities anywhere in the Western world. And in the U.S., in 2017, the FDA approved the first two cell-based, gene therapy products as well as a gene therapy product. Additional gene therapies have been approved in the U.S. since then.

U.S. Gene and Cell Therapy Products Development Process

The FDA approves biologics, including gene and cellular therapy products, through the Biologics License Application ("BLA") process before they may be legally marketed in the U.S. This process generally involves the following:

- completion of extensive nonclinical, sometimes referred to as preclinical laboratory tests, and preclinical animal studies and formulation studies in accordance with applicable regulations, including good laboratory practice ("GLP") and applicable requirements for the humane use of laboratory animals;
- submission to the FDA of an IND application, which must become effective before human clinical trials may begin;
- performance of adequate and well-controlled human clinical trials, according to the FDA's regulations commonly referred to as good clinical practice ("GCP") and any additional requirements for the protection of human research subjects and their health information, to establish the safety and efficacy of the proposed product for its intended use;
- submission to the FDA of a BLA for marketing approval that includes substantial evidence of safety, efficacy, and purity and potency, from nonclinical and in vitro testing and clinical trials;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities where the product is produced to assess compliance with current good manufacturing practice ("cGMP") to assure that the facilities, methods and controls are adequate to preserve the product's identity, strength, quality and purity and, if applicable, the FDA's current good tissue practice ("cGTP") requirements for the use of human cellular and tissue products;
- positive results from potential FDA audit of the nonclinical study and clinical trial sites that generated the data in support of the BLA;
- review of the proposed product by an FDA advisory committee, where appropriate and 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 drug or biological product candidate, including gene and cellular therapy product candidates, in humans, the product candidate is evaluated through preclinical testing. Preclinical tests, also referred to as nonclinical studies, include laboratory evaluations of product 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 applicable federal regulations and requirements, including GLP.

The clinical trial sponsor must submit the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature, and a proposed clinical protocol, to the FDA as part of the IND. Some preclinical testing may continue even after the IND application is submitted. The IND application automatically becomes effective 30 days after receipt by the FDA, unless the FDA places the clinical trial on a clinical hold within that 30-day time period. In such a case, the clinical trial sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. The FDA may also impose clinical holds on a biological product candidate at any time before or during clinical trials due to, among other reasons, safety concerns or non-compliance with regulatory requirements. If the FDA imposes a clinical hold, trials may not proceed without FDA authorization and then only under authorized terms. Accordingly, we cannot be sure that submission of an IND application will result in the FDA allowing clinical trials to begin, or that, once begun, issues will not arise that result in the suspension or termination of such trials.

Clinical trials involve the administration of the product candidate to healthy volunteers or patients under the supervision of qualified investigators, generally physicians not employed by or under the study sponsor's control. Clinical trials are conducted under protocols detailing, among other things, the objectives of the clinical trial, dosing procedures, subject selection and exclusion criteria, and the parameters to be used to monitor subject safety, including stopping rules that assure a clinical trial will be stopped if certain adverse events should occur. Each protocol and its amendments must be submitted to the FDA as part of the IND. Clinical trials must be conducted and monitored in accordance with the FDA's regulations comprising the GCP requirements, including the requirement that all research subjects provide informed consent. Further, each clinical trial must be reviewed and approved by an independent institutional review board ("IRB") at or servicing each institution at which the clinical trial will be conducted. An IRB is charged with protecting the welfare and rights of study participants and considers such items as whether the risks to individuals participating in the clinical trials are minimized and are reasonable in relation to anticipated benefits. The IRB also approves the form and content of the informed consent that must be signed by each clinical trial subject or his or her legal representative and must monitor the clinical trial until completed.

In addition to the submission of an IND to the FDA before initiation of a clinical trial in the U.S., certain human clinical trials involving recombinant or synthetic nucleic acid molecules are subject to oversight of institutional biosafety committees, ("IBCs"), as set forth in the National Institutes for 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 and 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 of recombinant or synthetic nucleic acid molecule research, many companies and other institutions not otherwise subject to the NIH Guidelines voluntarily follow them.

Human clinical trials are typically conducted in three sequential phases that may overlap or be combined:

- Phase 1. The product candidate is initially introduced into healthy human subjects and tested for safety. In the case of some products for severe or life-threatening diseases, especially when the product may be too inherently toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in patients.
- Phase 2. The 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 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 (for BLA products), and safety in an expanded patient population at dispersed clinical trial sites. These clinical trials are intended to establish the overall risk/benefit ratio of the product, including as compared to current standard treatments, and provide an adequate basis for product approval and labeling.

Post-approval clinical trials, sometimes referred to as Phase 4 clinical trials, may be conducted after initial marketing approval. These clinical trials are used to gain additional evidence about the treatment of patients in the intended therapeutic indication, particularly for long-term safety follow-up. The FDA typically advises that sponsors observe subjects for potential gene therapy-related delayed adverse events for up to a 15-year period, including a minimum of five years of annual examinations followed by ten years of annual queries, either in person or by questionnaire.

During all phases of clinical development, regulatory agencies require extensive monitoring and auditing of all clinical activities, clinical data, and clinical trial investigators. Annual progress reports detailing the status 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 adverse events, any findings from other trials, 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.

Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, if at all. The FDA or the sponsor or its data safety monitoring board may suspend a clinical trial at any time on various grounds, including a finding that the research subjects or patients 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 product candidate has been associated with unexpected serious harm to patients.

There also are requirements governing the reporting of ongoing clinical trials and completed clinical trial results to public registries. Sponsors of certain clinical trials of FDA-regulated products, including biologics such as gene and cellular therapy products, are required to register and disclose certain clinical trial information to NIH. Information related to the product, patient population, phase of investigation, study sites and investigators, and other aspects of the clinical trial is then made publicly available as part of the registration at www.clinicaltrials.gov. Sponsors also are obligated to disclose the results of their clinical trials after completion. Disclosure of the results of these trials can be delayed until the new product or new indication being studied has been approved, up to a maximum of two years.

Human therapeutic products based on genome editing technology are a relatively new category of therapeutics. Because this is a relatively new and expanding area of novel therapeutic interventions, there can be no assurance as to the length of the study period, the number of patients the FDA will require to be enrolled in the trials in order to establish the safety, purity and potency for human gene editing therapeutics, or that the data generated in these trials will be acceptable to the FDA to support marketing approval.

Concurrent with clinical trials, companies usually complete additional animal trials and must also develop additional information about the physical characteristics of the product candidate, as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP, and in certain cases, cGTP, requirements. To help reduce the risk of the introduction of adventitious agents with use of biological products, the PHS Act emphasizes the importance of manufacturing control for products 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 product to support a BLA. Additionally, appropriate packaging must be selected and tested, and stability studies must be conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over its shelf life.

U.S. Review and Approval Processes

FDA approval of a BLA must be obtained before commercial marketing of the product. The BLA must include results of product development, laboratory and animal trials, human trials, information on the manufacture and composition of the product, proposed labeling and other relevant information. In addition, under the Pediatric Research Equity Act ("PREA"), a BLA or supplement to a BLA, for a product candidate with certain novel characteristics must contain data to assess the safety and effectiveness of the product candidate 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 Food and Drug Administration Safety and Innovation Act of 2012 ("FDASIA") requires that a sponsor who is planning to submit a marketing application for a biological product that includes a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration submit an initial Pediatric Study Plan ("PSP") within sixty days after an end-of-Phase 2 meeting or as may be agreed between the sponsor and FDA, unless exempt due to orphan drug designation. The initial PSP must include, among other things, an outline of the pediatric study or studies that the sponsor plans to conduct, including, to the extent practicable, study objectives and design, age groups, relevant endpoints and statistical approach, or a justification for not including such detailed information, and any request for a deferral of pediatric assessments or a full or partial waiver of the requirement to provide data from pediatric studies along with supporting information, along with any other information specified in FDA regulations. The FDA and the sponsor must reach agreement on the PSP. A sponsor can submit amendments to an agreed-upon initial PSP at any time if changes to the pediatric plan need to be considered based on data collected from nonclinical studies, early phase clinical trials, or other clinical development programs. 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 drug designation has been granted. 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.

Under the Prescription Drug User Fee Act ("PDUFA"), as amended, each BLA must be accompanied by a user fee. The FDA adjusts the PDUFA user fees on an annual basis. Fee waivers or reductions are available in certain circumstances, including a waiver of the application fee for the first application filed by a small business. Additionally, no user fees are assessed on BLAs for products designated as orphan drugs, unless the product also includes a non-orphan indication.

Within 60 days following submission of the application, the FDA reviews the BLA to determine if it is substantially complete before the agency 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, including for failure to pay required fees, and may request additional information. In this event, the application must be resubmitted with the additional information. The resubmitted application also is subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review of the BLA. The FDA reviews the application to determine, among other things, whether the proposed product is safe and effective (or, in the case of biological products, safe, pure and potent), and whether the product is being manufactured in accordance with cGMP, and in certain cases, cGTP, requirements to ensure and preserve the product's identity, safety, strength, quality, potency and purity. The FDA may refer applications for novel products or products that present difficult 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 FDA review and 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 candidate. If the FDA concludes a

REMS is needed, the sponsor of the BLA must submit a proposed REMS; the FDA will not approve the application without a REMS, if required.

Before approving a BLA, the FDA 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, if applicable, cGTP requirements are adequate to assure consistent production of the product within required specifications. 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.

Notwithstanding the submission of relevant data and information, the FDA may ultimately decide that the BLA does not satisfy its regulatory criteria for approval and deny approval. Data obtained from clinical trials are not always conclusive and the FDA may interpret data differently than we interpret the same data. If the agency decides not to approve the BLA in its present form, the FDA will issue a complete response letter that usually describes all of the specific deficiencies in the application identified by the FDA. Addressing the deficiencies identified may require significant development work, such as product reformulation or additional clinical trials. The complete response letter may include recommended actions that the applicant might take to place the application in a condition for approval. If a complete response letter is issued, the applicant may either resubmit the application, addressing all of the deficiencies identified in the letter, challenge the determination set forth in the letter by requesting a hearing or withdraw the application.

If a product receives regulatory approval, the approval may be significantly limited to specific diseases, dosages or patient subgroups or the indications for use may otherwise be limited, which could restrict the commercial value of the product. Further, the FDA may require that certain contraindications, warnings, precautions or adverse events 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 IV clinical trials, designed to further assess a product's safety and effectiveness, and testing and surveillance programs to monitor the safety of approved products that have been commercialized.

One of the performance goals agreed to by the FDA under the PDUFA VI (Fiscal Years 2018-2022) is to review 90% of BLAs in 10 months from the 60-day filing date, and 90% of priority BLAs in six months from the 60-day filing date, whereupon a review decision is to be made. The FDA does not always meet its PDUFA goal dates for standard and priority BLAs, and its review goals are subject to change with PDUFA reauthorization. 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, also known as a Major Amendment, within the last three months before the PDUFA goal date.

Orphan Drug Designation

The FDA may grant orphan drug designation to biological products, including cellular and gene therapy products, intended to treat a rare disease or condition that affects fewer than 200,000 individuals in the U.S., or, if it affects more than 200,000 individuals in the U.S., when there is no reasonable expectation that the cost of developing and marketing the product for this type of disease or condition will be recovered from sales in the U.S. Orphan drug designation must be requested before submission of BLA. After the FDA grants orphan drug designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. Orphan drug designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

In the U.S., orphan drug designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers. In addition, if a product receives the first FDA approval for the indication for which it has orphan designation, the product is entitled to orphan drug exclusivity, which means the FDA may not approve any other application to market the same drug for the same orphan indication for a period of seven years, except in limited circumstances, such as a showing of clinical superiority over the product with orphan exclusivity or where the manufacturer with orphan exclusivity is unable to assure sufficient quantities of the approved orphan designated product. Competitors, however, may receive approval of different products for the

indication for which the orphan product has exclusivity or obtain approval for the same product but for a different indication for which the orphan product has exclusivity, which may permit off-label use for the orphan indication. Orphan product exclusivity also could block the approval of one of our products for seven years if a competitor obtains approval of the same drug or biological product as defined by the FDA for the same orphan indication or if our product candidate is determined to be contained within the competitor's product for the same indication or disease. If a drug or biological product designated as an orphan product receives marketing approval for an indication broader than what is designated, it may not be entitled to orphan product exclusivity.

Expedited Development and Review Programs

In the U.S. and the EU, as well as in other countries, there are a number of programs to expedite development, review and approval of products for serious or life-threatening disease or condition that address an unmet medical need in the relevant regulatory jurisdiction. In the U.S., these FDA programs include Fast Track Designation, priority review, accelerated approval and Breakthrough Therapy designation. Similar programs in the EU include accelerated assessment, conditional approval and PRIME, which stands for priority medicines.

The FDA's Fast Track program intends to expedite or facilitate the process for reviewing new drug and biological products that meet certain criteria. Specifically, new biological products are eligible for Fast Track designation if they are intended to treat a serious or life-threatening disease or condition and demonstrate the potential to address unmet medical needs for the disease or 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 biologic, including gene and cellular therapy products, may request that the FDA designate the product as a Fast Track product at any time during the product's clinical development, but ideally not later than the pre-BLA meeting. The FDA may consider for review sections of the marketing application for a Fast Track product on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the application, the FDA agrees to accept sections of the application and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the application.

In the U.S., any product is eligible for priority review if it treats a serious condition and, if approved, would provide a significant improvement in safety or effectiveness of the treatment, prevention, or diagnosis of that condition. 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. Additionally, a product may be eligible for accelerated approval. 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 be eligible for 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 a clinical endpoint other than survival or irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity or prevalence of the condition and the availability or lack of alternative treatments. As a condition of approval, the FDA may require that a sponsor of a product subject to accelerated approval perform adequate and well-controlled, post-marketing clinical trials. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product.

FDA's Breakthrough Therapy designation program is intended to expedite the development and review of products that treat serious or life-threatening diseases or conditions. A breakthrough therapy is defined as a drug or biological product that is intended, alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The designation includes all of the features of Fast Track designation, as well as more intensive FDA interaction and guidance. The Breakthrough Therapy designation is a distinct status from both accelerated approval and priority review, but these can also be granted to the same product candidate if the relevant criteria are met. The FDA must take certain actions, such as holding timely meetings and providing advice, intended to expedite the development and review of an application for approval of a breakthrough therapy. All requests for Breakthrough Therapy designation will be reviewed within 60 days of receipt, and FDA will either grant or deny the request.

Orphan designation, Fast Track designation, priority review, accelerated approval and Breakthrough Therapy designation do not change the standards for approval but may expedite the development or approval process. Where applicable, we plan to request Fast Track and Breakthrough Therapy designation for our product candidates. Even if we receive one or both of these designations for our product candidates, the FDA may later decide that our product candidates no longer meet the conditions for qualification. In addition, these designations may not provide us with a material commercial advantage.

Regenerative medicine advanced therapies ("RMAT") designation

As part of the 21st Century Cures Act, the FD&C Act was amended to facilitate an efficient development program for, and expedite review of regenerative advanced therapies, which include cell and gene 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. 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 and, for those granted accelerated approval, post-approval requirements may be fulfilled through the submission of clinical evidence from clinical studies, 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 the FDA's other expedited development programs, RMAT designation does not change the standards for approval but may expedite the development or approval process.

Post-Approval Requirements

Maintaining substantial compliance with applicable federal, state, and local statutes and regulations and, as applicable, their counterparts in other jurisdictions, requires the expenditure of substantial time and financial resources. Rigorous and extensive FDA regulation of biological products, including gene and cellular therapy products, continues after approval, particularly with respect to cGMP requirements. We will rely, and expect to continue to rely, on third parties for the production of clinical and commercial quantities of certain components of products that we may commercialize. Manufacturers of our products are required to comply with applicable requirements in the cGMP regulations, including quality control, 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, including gene and cellular therapy products.

We also would have to 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 and social media platforms. Discovery of previously unknown problems or the failure to comply with the applicable regulatory requirements may result in restrictions on the labeling or marketing of a product, imposition of a REMS or post-market study requirement 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 hold, 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, debarment, restitution, disgorgement of profits, or civil or criminal penalties. Any agency or judicial enforcement action could have a material adverse effect on us.

Biological product manufacturers and other entities involved in the manufacture and distribution of approved biological products, including gene and cellular therapy products, in the U.S. are required to register their establishments with the FDA and certain other federal and state agencies, and are subject to periodic unannounced inspections by the FDA and certain other federal and state agencies for compliance with cGMP, and in certain cases, cGTP, requirements 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, as well as potential civil and criminal liability. 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.

Biosimilars and Exclusivity

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, the "Affordable Care Act" or "ACA"), signed into law on March 23, 2010, includes a subtitle called the Biologics Price Competition and Innovation Act of 2009 ("BPCIA"), which created an abbreviated approval pathway for biological products that are biosimilar to or interchangeable with an FDA-licensed reference biological product in the U.S. Starting in 2015, the FDA commenced licensing biosimilars under the BPCIA, and there are currently numerous biosimilars approved in the U.S. and Europe. The FDA has issued a number of draft and final guidance documents outlining an approach to review and approval of biosimilars and interchangeable biological products.

The BPCIA also contains various provisions regarding exclusivity for reference and interchangeable products and procedures for sharing and litigating patents covering the reference product. The BPCIA, however, is complex and only beginning to be interpreted and implemented by the FDA. In addition, proposed legislation has sought to reduce the 12-year reference product exclusivity period. Other aspects of the BPCIA, some of which may impact the BPCIA exclusivity provisions, have also been the subject of recent litigation. As a result, the ultimate impact, implementation, and meaning of the BPCIA is subject to significant uncertainty.

Additional Regulation

In addition to the foregoing, state and federal laws regarding environmental protection and hazardous substances, including the Occupational Safety and Health Act, the Resource Conservancy and Recovery Act and the Toxic Substances Control Act, all affect our business. These and other laws govern our use, handling and disposal of various biological, chemical and radioactive substances used in, and wastes generated by, our operations. If our operations result in contamination of the environment or expose individuals to hazardous substances, we could be liable for damages and governmental fines. We believe that we are in material compliance with applicable environmental laws and that continued compliance therewith will not have a material adverse effect on our business. We cannot predict, however, how changes in these laws may affect our future operations.

Other Healthcare and Privacy Laws

In addition to FDA restrictions on marketing of biological products, other U.S. federal and state healthcare regulatory laws restrict business practices in the pharmaceutical industry, which include, but are not limited to, state and federal anti-kickback, false claims, data privacy and security, and physician payment transparency laws. The laws that may affect our ability to operate include:

- the federal Anti-Kickback Statute, which prohibits, among other things, individuals or entities from knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe, or certain rebates), directly or indirectly, overtly or covertly, in cash or in kind, to induce,

or in return for, either the referral of an individual, or the purchase, lease, order, arrangement for or recommendation of the purchase, lease, order, arrangement for any good, facility, item or service, for which payment may be made, in whole or in part, under a federal healthcare program, such as the Medicare and Medicaid programs. 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. In addition, the ACA provides that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal False Claims Act ("FCA"). Violators are subject to civil and criminal fines and penalties, as well as imprisonment and exclusion from government healthcare programs;

- federal civil and criminal false claims laws, including, without limitation, the federal FCA, and civil monetary penalty laws which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment or approval from the federal government, including Medicare, Medicaid and other government payors, that are false or fraudulent or knowingly making, using or causing to be made or used a false record or statement material to a false or fraudulent claim or to avoid, decrease or conceal an obligation to pay money to the federal government, or knowingly concealing or knowingly and improperly avoiding or decreasing an obligation to pay money to the federal government. A claim includes "any request or demand" for money or property presented to the U.S. federal government. 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 by, for example, promoting a product off-label. The FCA also permits a private individual acting as a "whistleblower" to bring civil whistleblower or *qui tam* actions against individuals (including biopharmaceutical manufacturers and sellers) on behalf of the federal government alleging violations of the FCA and to share in any monetary recovery. These laws impose criminal and civil penalties on violators;
- the federal Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), and its implementing regulations, which impose criminal and civil liability for knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (e.g., public or private) and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of, or payment for, healthcare benefits, items or services. 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 violations can lead to civil and criminal liability;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 ("HITECH"), and their respective implementing regulations, which impose, among other things, requirements on certain covered healthcare providers, health plans, and healthcare clearinghouses as well as their respective business associates that perform services for them that involve the use, or disclosure of, individually identifiable health information, relating to the privacy, security and transmission of individually identifiable health information without appropriate authorization. HITECH also created new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, 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 attorneys' fees and costs associated with pursuing federal civil actions. In addition, state and non-U.S. laws govern the privacy and security of health and other personal information in certain circumstances, many of which differ from each other in significant ways and may not have the same requirements, thus complicating efforts to comply with their respective provisions;

- the U.S. federal physician payment transparency requirements, sometimes referred to as the "Physician Payments Sunshine Act," created under the ACA, and their implementing regulations, which require manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report annually, to the Centers for Medicare and Medicaid Services ("CMS"), information related to payments or other "transfers of value" made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), other healthcare providers, and teaching hospitals, as well as ownership and investment interests held by physicians, other healthcare providers, and their immediate family members. Failure to submit 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. 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;
- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers;
- the Foreign Corrupt Practices Act ("FCPA") and other laws which prohibit improper payments or offers of payments to foreign governments and their officials and political parties by U.S. persons and issuers as defined by the statute for the purpose of obtaining or retaining business;
- the FD&C Act, which prohibits, among other things, the commercialization of adulterated or misbranded drugs and medical devices and the PHS Act, which prohibits, among other things, the commercialization of biological products unless a biologics license is in effect; and
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, which may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and may be broader in scope than their federal equivalents; state and foreign laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government or otherwise restrict payments that may be made to healthcare providers; state and foreign laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; and state and foreign laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Because of the breadth of these laws and the limited statutory exceptions and safe harbors available, it is possible that some of our business activities could be subject to challenge under one or more of such laws.

In the event we decide to conduct clinical trials or enroll subjects in our future clinical trials, we may be subject to additional privacy restrictions. As of May 25, 2018, the General Data Protection Regulation ("GDPR") regulates the collection, use, storage, disclosure, transfer or other processing of personal data, including personal health data, in the EU. The GDPR covers any business, regardless of its location, that provides goods or services to residents in the EU and, thus, could incorporate our activities in EU Member States. The GDPR imposes strict requirements on controllers and processors of personal data, including special protections for "sensitive information," which includes health and genetic information of individuals residing in the EU, obtaining consent of the individuals to whom the personal data relates, providing information to individuals regarding data processing activities, implementing safeguards to protect the security and confidentiality of personal data, providing notification of data breaches, ensuring certain accountability measures are in place and taking certain measures when engaging third-party processors. GDPR grants individuals the opportunity to object to the processing of their personal information, allows them to request deletion of personal information in certain circumstances, and provides the individual with an express right to seek legal remedies in the event the individual believes his or her rights have been violated. Further, the GDPR imposes strict rules on the transfer of personal data out of the EU to regions that have not been deemed to offer "adequate" privacy protections, such as the U.S. currently. Failure to comply with the requirements of the GDPR and the related national data protection laws of the EU Member States, which may deviate slightly from the GDPR, may result in warning letters, mandatory audits and financial penalties, including fines of up to 4% of annual global revenues, or

€20,000,000, whichever is greater. As a result of the implementation of the GDPR, we may be required to put in place additional mechanisms ensuring compliance with the new data protection rules, including as implemented by individual countries. In addition, further to the U.K.'s exit from the EU on January 31, 2020, the GDPR ceased to apply in the U.K. at the end of the transition period on December 31, 2020. However, as of January 1, 2021, the U.K.'s European Union (Withdrawal) Act 2018 incorporated the GDPR (as it existed on December 31, 2020 but subject to certain U.K. specific amendments) into U.K. law, referred to as the U.K. GDPR. The U.K. GDPR and the U.K. Data Protection Act 2018 set out the U.K.'s data protection regime, which is independent from but aligned to the EU's data protection regime. Non-compliance with the U.K. GDPR may result in monetary penalties of up to £17.5 million or 4% of worldwide revenue, whichever is higher. Although the U.K. is regarded as a third country under the EU's GDPR, the EC has now issued a decision recognizing the U.K. as providing adequate protection under the EU GDPR and, therefore, transfers of personal data originating in the EU to the U.K. remain unrestricted. Like the EU GDPR, the U.K. GDPR restricts personal data transfers outside the U.K. to countries not regarded by the U.K. as providing adequate protection. The U.K. government has confirmed that personal data transfers from the U.K. to the European Economic Area ("EEA"), which consists of the EU Member States, plus Norway, Liechtenstein and Iceland remain free flowing.

In the U.S., there has been a flurry of legislative activity at the state level. California recently enacted the California Consumer Privacy Act ("CCPA"), which creates new individual privacy rights for California consumers (as defined in the law) and places increased privacy and security obligations on entities handling personal data of consumers or households. The CCPA will require covered companies to provide new disclosure to consumers about such companies' data collection, use and sharing practices, provide such consumers new ways to opt-out of certain sales or transfers of personal information, and provide consumers with additional causes of action. The CCPA went into effect on January 1, 2020, and the California Attorney General could commence enforcement actions for violations beginning July 1, 2020. The California Attorney General's CCPA regulations went into effect on August 14, 2020, and their application may further impact our business activities. The uncertainty surrounding the application of CCPA and its regulations exemplifies the vulnerability of our business to the evolving regulatory environment related to personal data and protected health information. Further, a new California privacy law, the California Privacy Rights Act ("CPRA"), was passed by California voters on November 3, 2020. The CPRA will create additional obligations with respect to processing and storing personal information that are scheduled to take effect on January 1, 2023 (with certain provisions having retroactive effect to January 1, 2022). Additionally, some observers have noted that the CCPA and CPRA could mark the beginning of a trend toward more stringent privacy legislation in the U.S., which could increase our potential liability and adversely affect our business. Already, in the U.S., we have witnessed significant developments at the state level. For example, on March 2, 2021, Virginia enacted the Consumer Data Protection Act (the "CDPA") and, on July 8, 2021, Colorado's governor signed the Colorado Privacy Act ("CPA") into law. The CDPA and the CPA will both become effective January 1, 2023. While the CDPA and CPA incorporate many similar concepts of the CCPA and CPRA, there are also several key differences in the scope, application, and enforcement of the law that will change the operational practices of regulated businesses.

If our operations are found to be in violation of any of such laws or any other governmental regulations that apply to us, we may be subject to penalties, including, without limitation, administrative, civil and criminal penalties, damages, fines, disgorgement, contractual damages, reputational harm, diminished profits and future earnings, the curtailment or restructuring of our operations, exclusion from participation in federal and state healthcare programs, individual imprisonment, and additional reporting obligations and oversight if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with this law, any of which could adversely affect our ability to operate our business and our financial results.

To the extent that any of our product candidates, once approved, are sold in a foreign country, we may be subject to similar foreign laws and regulations, which may include, for instance, applicable post-marketing requirements, including safety surveillance, anti-fraud and abuse laws, and implementation of corporate compliance programs and reporting of payments or other transfers of value to healthcare professionals.

Regulation in the European Union

Clinical Trial Approval

In April 2014, the EU adopted the new Clinical Trials Regulation, (EU) No 536/2014, which replaced the current Clinical Trials Directive 2001/20/EC on 31 January 2022. The Clinical Trials Regulation is directly applicable in all

EU Member States meaning no national implementing legislation in each EU Member State is required. It overhauls the current system of approvals for clinical trials in the EU. The new Clinical Trials Regulation aims to simplify and streamline the approval of clinical trials in the EU. The main characteristics of the regulation include: a streamlined application procedure via a single-entry point, the "EU portal" through the Clinical Trials Information System, ("CTIS"); a single set of documents to be prepared and submitted for the application as well as simplified reporting procedures for clinical trial sponsors; and a harmonized procedure for the assessment of applications for clinical trials, which is divided in 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 EU 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. Strict deadlines have been established for the assessment of clinical trial applications. The role of the relevant ethics committees in the assessment procedure will continue to be governed by the national law of the concerned EU Member State. However, overall related timelines will be defined by the Clinical Trials Regulation.

Marketing Authorization

In the EU, medicinal products, including advanced therapy medicinal products ("ATMP"s), are subject to extensive pre- and post-market regulation by regulatory authorities at both the EU and national levels. ATMPs comprise gene therapy products, somatic cell therapy products and tissue engineered products. We anticipate that our gene therapy development products would be regulated as ATMPs in the EU.

To obtain regulatory approval of a medicinal product in the EU, we must submit a marketing authorization application ("MAA").

The centralized procedure provides for the grant of a single marketing authorization by the EC that is valid throughout the EU, and in the additional member states of the EEA (Iceland, Norway and Liechtenstein). Pursuant to Regulation (EC) No. 726/2004, the centralized procedure is compulsory for specific products, including for medicines produced by certain biotechnological processes, products designated as orphan medicinal products, ATMPs, and products with a new active substance indicated for the treatment of certain diseases, including products for the treatment of cancer, HIV or AIDS, diabetes, neurodegenerative disorders, auto-immune and other immune dysfunctions and viral diseases. For those products for which the use of the centralized procedure is not mandatory, applicants may elect to use the centralized procedure where either the product contains a new active substance indicated for the treatment of other diseases, or where the applicant can show that the product constitutes a significant therapeutic, scientific or technical innovation or for which a centralized process is in the interest of patients at an EU level.

Specifically, the grant of marketing authorization in the EU for ATMPs is governed by Regulation (EC) No. 1394/2007 on ATMPs, read in combination with Directive 2001/83/EC of the European Parliament and of the Council, commonly known as the Community code on medicinal products. Regulation (EC) No. 1394/2007 lays down specific rules concerning the authorization, supervision, and pharmacovigilance of gene therapy medicinal products, somatic cell therapy medicinal products, and tissue engineered products. Manufacturers of ATMPs must demonstrate the quality, safety, and efficacy of their products to the Committee for Advanced Therapies ("CAT"), at the EMA, which conducts a scientific assessment of the MAA and provides an opinion regarding the MAA for an ATMP. The EC grants or refuses marketing authorization in light of the opinion delivered by EMA.

The Committee for Medicinal Products for Human Use ("CHMP"), established at the EMA, is responsible for issuing a final opinion on whether an ATMP meets the required quality, safety and efficacy requirements, and whether a product has a positive benefit/risk profile. Under the centralized procedure in the EU, the maximum timeframe for the evaluation of an MAA by the EMA is 210 days from receipt of a valid MAA, excluding clock stops when additional information or written or oral explanation is to be provided by the applicant in response to questions of the CHMP. Clock stops may extend the timeframe of evaluation of an MAA considerably beyond 210 days. Where the CHMP gives a positive opinion, it provides the opinion, together with supporting documentation, to the EC, who make the final decision to grant a marketing authorization, which is issued within 67 days of receipt of the EMA's recommendation. Accelerated evaluation may be granted by the CHMP in exceptional cases, when a medicinal product is expected to be of major interest from the point of view of public health and, in particular, from the viewpoint of therapeutic innovation. If the CHMP accepts such a request, the time frame of 210 days for assessment will be reduced to 150 days (excluding clock stops), but it is possible that the CHMP may revert to the standard time limit for the

centralized procedure if it determines that the application is no longer appropriate to conduct an accelerated assessment.

Data and Market Exclusivity

The EU also provides opportunities for market exclusivity. For example, in the EU, upon receiving marketing authorization, innovative medicinal products generally receive eight years of data exclusivity and an additional two years of market exclusivity. Data exclusivity prevents applicants for authorization of generics or biosimilars of these innovative products from referencing the innovator's pre-clinical and clinical trial data contained in the dossier of the reference product when applying for a generic or biosimilar marketing authorization in the EU, during a period of eight years from the date on which the reference product was first authorized in the EU. During the additional two-year period of market exclusivity, a generic or biosimilar marketing authorization can be submitted, and the innovator's data may be referenced, but no generic or biosimilar product can be marketed until the expiration of the market exclusivity period. The overall ten-year period will be extended to a maximum of 11 years if, during the first eight years of those ten years, the marketing authorization holder obtains an authorization for one or more new therapeutic indications which, during the scientific evaluation prior to their authorization, are held to bring a significant clinical benefit in comparison with existing therapies. However, there is no guarantee that a product will be considered by the EU's regulatory authorities to be an innovative medicinal product, and products may therefore not qualify for data exclusivity. Even if a product is considered to be an innovative medicinal product so that the innovator gains the prescribed period of data exclusivity, another company nevertheless could also market another version of the product if such company obtained marketing authorization based on an MAA with a complete independent data package of pharmaceutical tests, pre-clinical tests and clinical trials.

Orphan Designation and Exclusivity

Products with an orphan designation in the EU will, upon the grant of a marketing authorization for an orphan product, receive ten years of market exclusivity, during which time no "similar medicinal product" for the same indication may be placed on the market. 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. An orphan product can also obtain an additional two years of market exclusivity in the EU where an agreed Pediatric Investigation Plan ("PIP") for pediatric studies has been complied with. No extension to any supplementary protection certificate ("SPC") can be granted on the basis of pediatric studies for orphan indications.

The criteria for designating an "orphan medicinal product" in the EU are similar in principle to those in the U.S. 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 (1) a life-threatening or chronically debilitating condition; (2) either (a) such condition affects no more than five in 10,000 persons in the EU when the application is made; or (b) it is unlikely that the product, without the benefits derived from orphan status, would generate sufficient return in the EU to justify the necessary investment in its development; and (3) there exists no satisfactory method of diagnosis, prevention or treatment of such condition authorized for marketing in the EU, or if such a method exists, the product will be of significant benefit to those affected by the condition, as defined in Regulation (EC) 847/2000. Orphan medicinal products are eligible for financial incentives such as reduction of fees or fee waivers and are, upon grant of a marketing authorization, entitled to ten years of market exclusivity for the approved therapeutic indication. The application for orphan designation must be submitted before the application for marketing authorization. The applicant will receive a fee reduction for the MAA if the orphan drug designation has been granted, but not if the designation is still pending at the time the marketing authorization is submitted. Orphan designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process.

The ten-year market exclusivity may be reduced to six years if, at the end of the fifth year, it is established that the product no longer meets the criteria for orphan designation, for example, if the product is sufficiently profitable not to justify maintenance of market exclusivity. Additionally, marketing authorization may be granted to a similar medicinal product for the same therapeutic indication at any time if:

- The second applicant can establish that its product, although similar, is safer, more effective or otherwise clinically superior;

- The applicant consents to a second orphan medicinal product application; or
- The applicant cannot supply enough orphan medicinal product.

Pediatric development

In the EU, companies developing a new medicinal product must agree upon a PIP with the EMA, and must conduct pediatric clinical trials in accordance with that PIP, unless a waiver applies, (e.g., because the relevant disease or condition occurs only in adults). This requirement also applies when a company wants to add a new indication, pharmaceutical form or route of administration for a medicine that is already authorized. The MAA for the product must include the results of pediatric clinical trials conducted in accordance with the PIP, unless a waiver applies, or a deferral has been granted, in which case the pediatric clinical trials must be completed at a later date. Products that are granted a marketing authorization on the basis of the pediatric clinical trials conducted in accordance with the PIP are eligible for a six month extension of the protection under a SPC 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, even where the trial results are negative, or, in the case of orphan medicinal products, a two year extension of the orphan market exclusivity. This pediatric reward is subject to specific conditions and is not automatically available when data in compliance with the PIP are developed and submitted.

Post-approval controls

The holder of a marketing authorization must establish and maintain a pharmacovigilance system and appoint an individual qualified person for pharmacovigilance, who is responsible for oversight of that system. Key obligations include expedited reporting of suspected serious adverse reactions and submission of periodic safety update reports (“PSUR”s).

All new MAAs must include a risk management plan (“RMP”), describing the risk management system that the company will put in place and documenting measures to prevent or minimize the risks associated with the product. The regulatory authorities may also impose specific obligations as a condition of the marketing authorization. Such risk-minimization measures or post-authorization obligations may include additional safety monitoring, more frequent submission of PSURs, or the conduct of additional clinical trials or post-authorization safety studies. RMPs and PSURs are routinely available to third parties requesting access, subject to limited redactions.

The manufacturing of authorized medicinal products, for which a separate manufacturer’s license is mandatory, must also be conducted in strict compliance with the applicable EU laws, regulations and guidance, including Directive 2001/83/EC, Directive 2003/94/EC, Regulation (EC) No 726/2004 and the European Commission Guidelines for Good Manufacturing Practice. These requirements include compliance with EU cGMP standards when manufacturing medicinal products and active pharmaceutical ingredients, including the manufacture of active pharmaceutical ingredients outside of the EU with the intention to import the active pharmaceutical ingredients into the EU.

All advertising and promotional activities for the product must be consistent with the approved Summary of Product Characteristics and therefore all off-label promotion is prohibited. Direct-to-consumer advertising of prescription medicines is also prohibited in the EU. Although general requirements for advertising and promotion of medicinal products are established under EU directives, the details are governed by regulations in each EU member state and can differ from one country to another.

The aforementioned EU rules are generally applicable in the EEA, which consists of the EU Member States, plus Norway, Liechtenstein and Iceland.

For other countries outside of the EU, such as countries in Eastern Europe, Latin America or Asia, the requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary from country to country. In all cases, again, the clinical trials must be conducted in accordance with GCP and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki.

If we fail to comply with applicable foreign regulatory requirements, we may be subject to, among other things, fines, suspension of clinical trials, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions and criminal prosecution.

Brexit and the Regulatory Framework in the United Kingdom

On June 23, 2016, the electorate in the U.K. voted in favor of leaving the EU, commonly referred to as Brexit, and the U.K. formally left the EU on January 31, 2020. There was a transition period during which EU pharmaceutical laws continued to apply to the U.K., which expired on December 31, 2020. However, the EU and the U.K. 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 foresee wholesale mutual recognition of U.K. and EU pharmaceutical regulations. At present, Great Britain has implemented EU legislation on the marketing, promotion and sale of medicinal products through the Human Medicines Regulations 2012 (as amended) (under the Northern Ireland Protocol, the EU regulatory framework will continue to apply in Northern Ireland). The regulatory regime in Great Britain therefore currently aligns with EU regulations, however it is possible that these regimes will diverge in the future now that Great Britain's regulatory system is independent from the EU and the TCA does not provide for mutual recognition of U.K. and EU pharmaceutical legislation.

Other Government Regulation

In addition to the healthcare laws and regulations in the U.S. and EU discussed above, we may be subject to a variety of regulations in these and other jurisdictions governing, among other things, animal research, clinical studies, manufacture, marketing approval, and any commercial sales and distribution of biological products. Because biologically sourced raw materials are subject to unique contamination risks, their use may be restricted in some countries. In addition, in 2020 we were subject to evolving local and state regulations relating to the coronavirus disease-19 ("COVID-19") pandemic. These regulations may continue to change, and we may be required to change our operations and business conduct in response to these changes.

Coverage and Reimbursement

Significant uncertainty exists as to the coverage and reimbursement status of any biological product for which we obtain regulatory approval. In the U.S. and markets in other countries, patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Patients are unlikely to use our products unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our products. Sales of any products for which we receive regulatory approval for commercial sale will therefore depend, in part, on the availability of coverage and adequate reimbursement from third-party payors. Third-party payors include government authorities, managed care providers, health maintenance organizations, private health insurers and other organizations.

In the U.S., no uniform policy of coverage and reimbursement for biological products, including gene and cellular therapy products, exists among third-party payors. As a result, obtaining coverage and reimbursement approval for such a product from a government or other third-party payor is a time-consuming and costly process that could require us to provide to each payor supporting scientific, clinical and cost-effectiveness data regarding the products' clinical benefits and risks on a payor-by-payor basis, with no assurance that coverage and adequate reimbursement will be obtained. Even if we obtain coverage for a given product, the resulting reimbursement payment rates might not be adequate for us to achieve or sustain profitability or may require co-payments that patients find unacceptably high. Additionally, third-party payors may not cover, or provide adequate reimbursement for, long-term follow-up evaluations required following the use of our gene-modifying products. Patients are unlikely to use, and health care providers may not prescribe, our product candidates unless coverage is provided, and reimbursement is adequate to cover a significant portion of the product's cost to the patient. Because our product candidates may have a higher cost of goods than conventional therapies, and may require long-term follow up evaluations, the risk that coverage and reimbursement rates may be inadequate for us to achieve profitability may be greater. Moreover, increasing efforts by governmental and third-party payors in the U.S. and abroad to cap or reduce healthcare costs may cause such organizations to limit both coverage and the level of reimbursement for biological products and, as a result, they may not cover or provide adequate payment for our product candidates. In addition, we expect to experience pricing pressures in connection with the sale of any of our product candidates upon their approval due to the trend toward managed healthcare, the increasing influence of health maintenance organizations, cost containment initiatives and additional legislative changes. For these reasons, there is significant uncertainty related to coverage and

reimbursement of our future products. It is difficult to predict at this time what third-party payors will decide with respect to the coverage and reimbursement for our product candidates.

Third-party and government payors consistently seek to reduce reimbursements for medical products and services. Additionally, the containment of healthcare costs is a priority of federal and state governments, and the prices of drugs have been a focus in this effort. The U.S. government, state legislatures and foreign governments have shown significant interest in implementing cost-containment programs, including price controls, restrictions on reimbursement and requirements for substitution of generic 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 our net revenue and results. Decreases in third-party reimbursement for our products or a decision by a third-party payor to not cover our products could reduce physician usage of the products and have a material adverse effect on our sales, results of operations and financial condition.

Government payment for some of the costs of prescription drugs may increase demand for products for which we receive marketing approval. However, any negotiated prices for our products covered by a Part D prescription drug plan will likely be lower than the prices we might otherwise obtain. Moreover, while the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (“MMA”) applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own payment rates. Any reduction in payment that results from the MMA may result in a similar reduction in payments from non-governmental payors.

The American Recovery and Reinvestment Act of 2009 provides funding for the federal government to compare the effectiveness of different treatments for the same illness. The plan for the research was published in 2012 by the Department of Health and Human Services, the Agency for Healthcare Research and Quality and the National Institutes for Health, and periodic reports on the status of the research and related expenditures are made to Congress.

It is likely that our product candidates, once approved, will have to be administered by a health care provider. Under currently applicable U.S. law, certain products not usually self-administered (including injectable drugs) may be eligible for coverage under Medicare Part B. As a condition of receiving Medicare Part B reimbursement, the manufacturer of the therapy is required to participate in other government healthcare programs, including the Medicaid Drug Rebate Program and the 340B Drug Pricing Program, both of which require the manufacturer to provide rebated pricing under certain conditions. For example, the Medicaid Drug Rebate Program requires pharmaceutical manufacturers to have a national rebate agreement with the federal government as a condition for states to receive federal matching funds for the manufacturer’s outpatient drugs furnished to Medicaid patients. Under the 340B Drug Pricing Program, the manufacturer must extend discounts to program eligible entities, which generally are federally funded clinics and hospitals that serve large numbers of low-income and uninsured patients.

In addition, in some foreign countries, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing vary widely from country to country. For example, the EU provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state 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 pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our products. Historically, products launched in the EU do not follow price structures of the U.S. and generally prices tend to be significantly lower.

Healthcare Reform

In the U.S. and some foreign jurisdictions, there have been, and likely will continue to be, a number of legislative and regulatory changes and proposed changes regarding the healthcare system directed at broadening the availability of healthcare, improving the quality of healthcare, and containing or lowering the cost of healthcare.

For example, in March 2010, the ACA was enacted in the U.S. The ACA includes measures that have significantly changed, and are expected to continue to significantly change, the way healthcare is financed by both governmental and private insurers. Among the provisions of the ACA of greatest importance to the pharmaceutical industry are that the ACA:

- subjects biological products to potential competition by biosimilars;
- made several changes to the Medicaid Drug Rebate Program, including increasing pharmaceutical manufacturers' rebate liability by raising the minimum basic Medicaid rebate on most branded prescription drugs to 23.1% of average manufacturer price ("AMP"), and adding a new rebate calculation for "line extensions" (i.e., new formulations, such as extended release formulations) of solid oral dosage forms of branded products, as well as potentially impacting their rebate liability by modifying the statutory definition of AMP;
- imposed a requirement on manufacturers of branded drugs to provide a 50% (increased to 70% on January 1, 2019 pursuant to subsequent legislation) point-of-sale discount off the negotiated price of branded drugs dispensed to Medicare Part D beneficiaries in the coverage gap (i.e., "donut hole") as a condition for a manufacturer's outpatient drugs being covered under Medicare Part D;
- extended a manufacturer's Medicaid rebate liability to covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations;
- expanded the entities eligible for discounts under the 340B Drug Discount Program;
- established a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted, or injected;
- imposed an annual, nondeductible fee and tax on any entity that manufactures or imports certain branded prescription drugs, apportioned among these entities according to their market share in certain government healthcare programs;
- imposed new reporting requirements on drug manufacturers for payments made to physicians and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members. Failure to submit required information may result in significant 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; and
- established a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research. The research conducted by the Patient-Centered Outcomes Research Institute may affect the market for certain pharmaceutical products. The ACA established the Center for Medicare and Medicaid Innovation ("CMMI") within CMS to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending. Funding was allocated to support the mission of CMMI through 2019. Pursuant to the Fiscal Year 2020 budget, CMMI will receive funding for 10 more years.

Congress also could consider additional legislation to repeal, replace, or further modify elements of the ACA. Thus, the full impact of the ACA, or any law replacing elements of it, and the political uncertainty regarding any repeal and replacement on the ACA, on our business remains unclear.

Additionally, there have been a number of proposed regulatory actions and legislative recommendations aimed at lowering prescription drug prices. In May 2019, CMS issued a final rule to allow Medicare Advantage Plans the option to use step therapy, a type of prior authorization, for Part B drugs. This final rule codified CMS's policy change that was effective January 1, 2019.

We cannot predict what healthcare reform initiatives may be adopted in the future. Further federal, state and foreign legislative and regulatory developments are likely, and we expect ongoing initiatives to increase pressure on drug pricing. Such reforms could have an adverse effect on anticipated revenues from product candidates and may affect our overall financial condition and ability to develop product candidates.

Human Capital

We believe the success of Intellia's mission largely depends on our ability to attract and retain highly skilled employees. We believe programs that foster company engagement, diversity, equity and inclusion, growth and development while providing competitive compensation and benefits will attract a diverse population of employees who will bring innovative ideas and creative solutions that will enable the achievement of our goals.

Company Communications and Engagement. Many of our employees actively participate in our Cultural Ambassador program, fostering a grassroots approach to engagement with support and guidance from our executive leadership team. Our Cultural Ambassador programs focus on the following: diversity, equity and inclusion, continuous learning, wellness and sustainability, social events, community outreach, and Intellia values and engagement.

Diversity, Equity and Inclusion. As we continue to grow as an organization, we remain dedicated to championing a culture that celebrates diversity and fosters a collaboration inside the organization. We are committed to continue our efforts to increase diversity throughout Intellia, particularly in leadership roles. Our team of Senior and Executive Vice Presidents is 50% female and 30% are ethnically diverse. Overall, as of February 17, 2022, our employee population consists of 56% women and 44% men.

Compensation and Benefits, Health and Wellness. We offer competitive benefits, including competitive salaries, excellent health insurance, and a 401(k) match. We are committed to pay equity, regardless of gender, race/ethnicity, or sexual orientation and conduct comprehensive pay equity analyses on a semi-annual basis. Since the onset of the COVID-19 pandemic, we have taken additional steps to support our employees in managing their work and personal responsibilities, with a focus on employee wellbeing.

Growth and Development. Investing in our employees' career growth is an important priority at Intellia. We aim to provide a wide range of on-the-job development opportunities, as well as in-person, virtual, and off-site training seminars. Of particular importance is fostering of leaders with our "Manager Bootcamp" series, which aims to refine the leadership and managerial skills of our managers.

Conduct and Ethics. We believe it is imperative that the board of directors and senior management strongly support a no-tolerance stance for workplace harassment, biases and unethical behavior. All employees, including senior management, are required to abide by, review and confirm compliance to the company's Code of Business Conduct and Ethics Policy and other internal policies that outline our high expectations.

Employees

As of February 17, 2022, we had 485 full-time employees, 367 of whom were primarily engaged in research and development activities and 111 of whom have an M.D. or Ph.D. degree.

Our Corporate Information

We were incorporated under the laws of the state of Delaware in May 2014 under the name AZRN, Inc. Our principal executive offices are located at 40 Erie Street, Suite 130, Cambridge, Massachusetts 02139. Our telephone number is (857) 285-6200, and our website is located at www.intelliatx.com. References to our website are inactive textual references only and the content of our website should not be deemed incorporated by reference into this Annual Report on Form 10-K.

Available Information

Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to these reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, are available free of charge on our website located at www.intelliatx.com as soon as reasonably practicable after they are filed with or furnished to the Securities and Exchange Commission (the "SEC").

The SEC maintains an Internet website that contains reports, proxy and information statements, and other information regarding us and other issuers that file electronically with the SEC. The SEC's Internet website address is http://www.sec.gov.

A copy of our Corporate Governance Guidelines, Code of Conduct and Business Ethics and the charters of the Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee are posted on our website, www.intelliatx.com, under “Investor Relations”.

Item 1A. Risk Factors

Investing in our common stock involves a high degree of risk. In evaluating us and our business, careful consideration should be given to the following risk factors, in addition to the other information set forth in this Annual Report on Form 10-K for the year ended December 31, 2021 and in other documents that we file with the SEC. If any of the following risks and uncertainties actually occurs, our business, prospects, financial condition and results of operations could be materially and adversely affected. The risks described below are not intended to be exhaustive and are not the only risks facing us. New risk factors can emerge from time to time, and we cannot predict the impact that any factor or combination of factors may have on our business, prospects, financial condition and results of operations.

Risks Related to Our Business

Risks Related to Preclinical and Clinical Development

CRISPR/Cas9 genome editing technology is not yet clinically validated for human therapeutic use. The approaches we are taking to discover and develop novel therapeutics using CRISPR/Cas9 systems are unproven and may never lead to marketable products. If we are unable to develop viable product candidates, achieve regulatory approval for any such product candidate or market and sell any product candidates, we may never achieve profitability.

We are focused on developing curative medicines utilizing CRISPR/Cas9 genome editing technology, including *in vivo* therapies and *ex vivo* engineered cell therapies. Although there have been significant advances in recent years in the fields of gene therapy and genome editing, *in vivo* CRISPR-based genome editing technologies are relatively new and their therapeutic utility is largely unproven. Our approach to developing therapies centers on using CRISPR/Cas9 technology to alter, introduce or remove genetic information *in vivo* to treat various disorders, or to engineer human cells *ex vivo* to create therapeutic cells that can be introduced into the human body to address the underlying disease.

Successful development of products by us will require solving a number of issues, including developing or obtaining technologies to safely deliver a therapeutic agent into target cells within the human body or engineer human cells while outside of the body such that the modified cells can have a therapeutic effect when delivered to the patient, optimizing the efficacy and specificity of such products, and ensuring and demonstrating the therapeutic selectivity, efficacy, potency, purity and safety of such products. There can be no assurance we will be successful in solving any or all of these issues. Indeed, no genome editing *in vivo* therapy or genome-edited engineered cell therapy has been approved in the United States (“U.S.”), European Union (“EU”) countries or other key jurisdictions. With regards to CRISPR/Cas9-based therapies specifically, we are beginning to clinically test our *in vivo* and *ex vivo* product candidates. Further, we are unaware of any clinical trials validating safety and efficacy having been completed by any third parties. Accordingly, the potential to successfully obtain approval for any of our CRISPR/Cas9 product candidates remains unproven.

Our future success also is highly dependent on the successful development of CRISPR-based genome editing technologies, cellular delivery methods and therapeutic applications for the indications on which we have focused our on-going research and development efforts. We may decide to alter or abandon these programs as new data become available and we gain experience in developing CRISPR/Cas9-based therapeutics. We cannot be sure that our CRISPR/Cas9 efforts and technologies will yield satisfactory products that are safe and effective, sufficiently pure or potent, manufacturable, scalable or profitable in our selected indications or any other indication we pursue. We cannot guarantee that progress or success in developing any particular CRISPR/Cas9-based therapeutic product will translate to other CRISPR/Cas9-based products.

Public perception and related media coverage of potential therapy-related efficacy or safety issues, including adoption of new therapeutics or novel approaches to treatment, as well as ethical concerns related specifically to genome editing and CRISPR/Cas9, may adversely influence the willingness of subjects to participate in clinical trials, or if any therapeutic is approved, of physicians and patients to accept these novel and personalized treatments. Physicians, healthcare providers and third party payors often are slow to adopt new products, technologies and treatment practices, particularly those that may also require additional upfront costs and training. Physicians may not be willing to undergo training to adopt these novel and potentially personalized therapies, may decide the particular therapy is too complex

or potentially risky to adopt without appropriate training, and may choose not to administer the therapy. Further, due to health conditions, genetic profile or other reasons, certain patients may not be candidates for the therapies. In addition, responses by federal and state agencies, congressional committees and foreign governments to negative public perception, ethical concerns or financial considerations may result in new legislation, regulations, or medical standards that could limit our ability to develop or commercialize any product candidates, obtain or maintain regulatory approval or otherwise achieve profitability. New government requirements may be established that could delay or prevent regulatory approval of our product candidates under development. It is impossible to predict whether legislative changes will be enacted, regulations, policies or guidance changed, or interpretations by agencies or courts changed, or what the impact of such changes, if any, may be. Based on these and other factors, healthcare providers and payors may decide that the benefits of these new therapies do not or will not outweigh their costs.

Clinical development involves a lengthy and expensive process, with an uncertain outcome. We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of any product candidates.

All of our lead programs are still in the discovery, preclinical or early clinical stage. Our current and future product candidates will require preclinical and clinical activities and studies, regulatory review and approval in each jurisdiction in which we intend to market the products, substantial investment, establishing manufacturing capabilities, access to sufficient commercial manufacturing capacity and significant marketing efforts before we can generate any revenue from product sales. Before obtaining marketing approval from regulatory authorities for the sale of a product candidate, we must conduct extensive clinical trials to demonstrate the safety, purity, potency and efficacy of the product in humans. It is impossible to predict when or if any of our programs will prove effective and safe in humans or will receive regulatory approval. Preclinical and clinical testing is expensive, difficult to design and implement, can take many years to complete and is uncertain as to outcome. We may be unable to establish clinical endpoints that regulatory authorities consider clinically meaningful, and a clinical trial can fail at any stage. 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, and many companies that have believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain approval of their products.

Successful completion of clinical trials is a prerequisite to submitting a Biologics License Application (“BLA”) to the FDA, and similar applications to comparable foreign regulatory authorities, for each product candidate and, consequently, the ultimate approval and commercial marketing of any product candidates. We do not know whether any of our clinical trials will begin or be completed on schedule, if at all.

Because these are new therapeutic approaches, discovering, developing, manufacturing and commercializing our product candidates subject us to a number of challenges or delays in completing our preclinical studies and initiating or completing clinical trials. We also may experience numerous unforeseen events during, or as a result of, any current or future clinical trials that we conduct, which could delay or prevent our ability to receive marketing approval or commercialize our product candidates, including:

- challenges in obtaining regulatory authorization or approval to commence clinical trials in the U.S. from the FDA through an investigational new drug (“IND”) application or from other regulatory agencies outside the U.S., such as the United Kingdom (“U.K.”) Medicines and Healthcare products Regulatory Agency (“MHRA”), the European Medicines Agency (“EMA”) or the New Zealand Medicines and Medical Devices Safety Authority (“MEDSAFE”), through corresponding applications, such as a Clinical Trial Application (“CTA”), a Clinical Trial Notification or a Clinical Trial Exemption, because these agencies have very limited or no experience with the clinical development of CRISPR/Cas9-based therapeutics, which may require additional significant testing or data compared to more traditional therapies;
- successfully developing processes for the safe administration of these products, including long-term follow-up for patients who receive treatment with any of our product candidates;
- regulators, institutional review boards (“IRBs”) or ethics committees may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial;

- inability to reach, or delays in reaching, agreement on acceptable terms with trial sites and contract research organizations ("CROs");
- clinical trials of any product candidates may fail to show safety or efficacy, or could produce negative or inconclusive results, which could result in having to conduct additional preclinical studies or clinical trials or terminating the product development programs;
- we may not be able to initiate or complete clinical trials of a product candidate if the required number of subjects is larger than we anticipated, the number of subjects willing to enroll is smaller than required, the pace of enrollment is slower than anticipated, or subjects drop out or fail to return for post-treatment follow-up at a higher rate than we anticipated;
- we may need to educate medical personnel, including clinical investigators, and patients regarding the potential benefits and side effect profile of each of our product candidates;
- regulatory agencies may require us to amend our INDs or equivalent regulatory filings or modify the design of our clinical trials or perform more extensive or lengthier clinical testing compared to existing therapeutic modalities;
- our third-party contractors may fail to comply with regulatory requirements or meet their performance obligations to us in a timely manner, or at all, or may deviate from the clinical trial protocol or drop out of the trial, which may require that we add new clinical trial sites or investigators;
- we may elect to, or regulators, IRBs or ethics committees may require that we or our investigators, suspend or terminate clinical research or trials for various reasons, including noncompliance with regulatory requirements or a finding that the participants are being exposed to unacceptable health risks;
- the cost of preclinical studies and clinical trials of any product candidates may be greater than we anticipate;
- the supply or quality of our product candidates or other materials necessary to conduct preclinical studies and clinical trials of our product candidates may be insufficient or inadequate, or not available in a reasonable timeframe, and any transfer of manufacturing activities may require unforeseen manufacturing or formulation changes;
- we may face challenges in sourcing preclinical, clinical and, if approved, commercial supplies for the materials used to manufacture and process our product candidates, which may include importing or exporting materials between different jurisdictions;
- our product candidates may have undesirable side effects or other unexpected characteristics, causing us or our investigators, regulators, IRBs or ethics committees to suspend or terminate the trials, or reports may arise from preclinical or clinical testing of other gene therapies or genome editing-based therapies that raise safety or efficacy concerns about our product candidates;
- the FDA or other regulatory authorities may require us to submit additional data, such as long-term toxicology studies, or impose other requirements, including requiring amendments to our regulatory filings, before permitting us to initiate or rely on a clinical trial;
- we may be unable to develop a manufacturing process and distribution network with a cost of goods that allows for an attractive return on investment;
- we may face challenges in establishing sales and marketing capabilities in anticipation of, and after obtaining, any regulatory approval to gain market authorization;
- the FDA or other regulatory authorities may revise the requirements for approving our product candidates, or their interpretation of the approval requirements may not be what we anticipate; and
- we may not ultimately obtain regulatory approval for a BLA, or corresponding applications outside the U.S., such as a Marketing Authorization Application ("MAA") from the U.K. and other similar regulatory authorities, such as the EMA, which may have very limited or no experience with the clinical development of CRISPR/Cas9-based therapeutics.

In addition, disruptions caused by the evolving COVID-19 pandemic may increase the likelihood that we encounter such difficulties or delays in initiating, enrolling, conducting or completing our ongoing and planned clinical trials. We could also encounter delays if a clinical trial is suspended or terminated by us, the IRBs of the institutions in which such trials are being conducted or the relevant ethics committee, the Data Safety Monitoring Board ("DSMB") for such trial, or the FDA or other relevant regulatory authorities. Such authorities may impose such a suspension or termination due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities, resulting in the imposition of a clinical hold, manufacturing or quality control issues, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a product or treatment, failure to establish or achieve clinically meaningful trial endpoints, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. Many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates. Further, the FDA or other regulatory authorities may disagree with our clinical trial design and our interpretation of data from clinical trials or may change the requirements for approval even after they have reviewed and commented on the design for our clinical trials.

Additionally, 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 products 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;
- transient expression of the Cas9 protein could lead to patients having an immunological reaction towards those cells, which could be severe or life-threatening;
- 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 products 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 our product candidates if required by the relevant regulatory agency, which could vary by country or region.

Further, because our *ex vivo* product candidates involve editing human cells and then delivering modified cells to patients, we are 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.

To date, human clinical trials utilizing either *in vivo* or *ex vivo* CRISPR/Cas9-based therapeutics, including our clinical trials for NTLA-2001 for transthyretin ("ATTR") amyloidosis, NTLA-2002 for hereditary angioedema ("HAE") and NTLA-5001 for acute myeloid leukemia ("AML"), are still at an early stage. In November 2021, we received MHRA approval for an amendment to our approved protocol for NTLA-2001 which enabled us to include patients with ATTR amyloidosis with cardiomyopathy. There is no certainty that the FDA or other similar agencies will continue to apply to all our CRISPR/Cas9 product candidates the same regulatory pathway and requirements it is applying to other *in vivo* therapies or *ex vivo* engineered therapeutics. In addition, if any product candidates encounter safety or efficacy problems, development delays, regulatory issues or other problems, our development plans and business could be significantly harmed. Further, competitors that are developing *in vivo* or *ex vivo* products with similar technology may experience problems with their product candidates or programs that could in turn cause us to identify problems with our product candidates and programs that would potentially harm our business.

We received IND authorization from the FDA for NTLA-5001 in September 2021 and CTA authorization from the MHRA in November 2021, and we initiated patient screening in a Phase 1/2a study. In addition, we received authorization in October 2021 from the U.K.'s MHRA and New Zealand's MEDSAFE to initiate a Phase 1/2 study evaluating NTLA-2002 for the treatment of adults with HAE, and the first patient was dosed in such clinical trial. We may experience manufacturing delays or other issues that prevent us from executing the first-in-human clinical trials for NTLA-5001 or NTLA-2002 on the timelines we expect. Moreover, we cannot guarantee that the FDA, MHRA, MEDSAFE, or other regulatory authorities will not change their requirements in the future or approve amendments to our INDs or equivalent regulatory filings, including for NTLA-2001, NTLA-2002, or NTLA-5001.

Negative public opinion and increased regulatory scrutiny of CRISPR/Cas9 use, genome editing or gene therapy generally may damage public perception of the safety of any product candidates that we develop and adversely affect our ability to conduct our business or obtain regulatory approvals for such product candidates.

Gene therapy in general, and genome editing in particular, remain novel technologies, with only a limited number of gene therapy products approved to date in the U.S. and EU. Public perception may be influenced by claims that gene therapy or genome editing, including the use of CRISPR/Cas9, is unsafe or unethical, or carries an undue risk of side effects, such as improper modification of a gene sequence in a patient's chromosome that could lead to cancer, and gene therapy or genome editing may not gain the acceptance of the public or the medical community. In particular, our success will depend upon physicians who specialize in the treatment of diseases targeted by our product candidates prescribing treatments that involve the use of our product candidates in lieu of, or in addition to, existing treatments with which they are more familiar and for which greater clinical data may be available. In addition, responses by the U.S., state or foreign governments to negative public perception or ethical concerns may result in new legislation or regulations that could limit our ability to develop or commercialize any product candidates, obtain or maintain regulatory approval or otherwise achieve profitability. More restrictive statutory regimes, government regulations or negative public opinion could have an adverse effect on our business, financial condition and results of operations and prospects, and may delay or impair the development and commercialization of our product candidates or demand for any products we may develop. For example, certain gene therapy trials led to several well-publicized adverse events, including cases of leukemia and death. Serious adverse events, such as these, in our clinical trials, or other clinical trials involving gene therapy or genome editing products or our competitors' products, even if not ultimately attributable to the relevant product candidates, and the resulting publicity could result in increased government regulation, unfavorable public perception, potential regulatory delays in the testing or approval of our product candidates, stricter labeling requirements for those product candidates that are approved and a decrease in demand for any such product candidate. In addition, the use of the technology by third parties in areas that are not being pursued by us, such as for targeting and editing of embryonic cells, could adversely impact public and governmental perceptions regarding the ethics and risks of the CRISPR/Cas9 technology and lead to social or legal changes that could limit our ability to apply the technology to develop human therapies addressing disease. For example, reports of the use of CRISPR/Cas9 in China and Russia to edit embryos *in utero* have generated and may continue to create negative public perception about the use of the technology in humans. Negative public and governmental perception of the technology, or additional governmental regulation of our technologies, could also adversely affect our stock price or our ability to enter into revenue generating collaborations or obtain additional funding from the public markets.

Risks Related to Competition

We face significant competition in an environment of rapid technological change. The possibility that our competitors may achieve regulatory approval before we do or develop therapies that are more advanced or effective than ours may harm our business and financial condition or our ability to successfully market or commercialize our product candidates.

The biotechnology and pharmaceutical industries are extremely competitive in the race to develop new products. While we believe we have significant competitive advantages with our industry-leading expertise in genome editing, clinical development expertise and dominant IP position, we currently face and will continue to face competition for our development programs from companies that use genome editing or gene therapy development platforms and from companies focused on more traditional therapeutic modalities such as small molecules and antibodies. The competition is likely to come from multiple sources, including large and specialty pharmaceutical and biotechnology companies, academic research institutions, government agencies and public and private research institutions. Many of these competitors may have access to greater capital and resources than us. For any products that we may ultimately

commercialize, not only will we compete with any existing therapies and those therapies currently in development, but we will also have to compete with new therapies that may become available in the future.

Competitors in our efforts to provide genetic therapies to patients can be grouped into at least three sets based on their product discovery platforms:

Our platform and product foci are on the development of therapies using CRISPR/Cas9 gene-editing technology. Genome editing companies focused on CRISPR based technologies include: Beam Therapeutics Inc., Caribou Biosciences, Inc., CRISPR Therapeutics AG, Editas Medicine, Inc., Verve Therapeutics Inc. and ToolGen, Inc.

There are also companies developing therapies using additional gene-editing technologies, which include Allogene Therapeutics, Inc., bluebird bio, Inc., Cellectis S.A., Precision Biosciences, Inc., Sangamo Therapeutics, Inc., Homology Medicines, Inc., Poseida Therapeutics, Inc. and Prime Medicine, Inc.

We are also aware of companies developing therapies in various areas related to our specific research and development programs. In *ex vivo*, these companies include Allogene Therapeutics, Inc., Precision BioSciences, Inc., CRISPR Therapeutics AG, Cellectis S.A. and Editas Medicine, Inc. In *in vivo*, these companies include Editas Medicine, Inc., CRISPR Therapeutics AG, Locus Biosciences, Inc., Excision Biotherapeutics, Inc. and Precision Biosciences, Inc.

Specific to our NTLA-2001 program, we are aware of other companies that are currently commercializing or developing products used to treat TTR amyloidosis, including Pfizer, Inc., Alnylam Pharmaceuticals, Inc., Ionis Pharmaceuticals, Inc., BridgeBio Pharma Inc. and Novo Nordisk A/S.

Specific to our NTLA-2002 program, we are aware of other companies that are currently commercializing or developing products used to treat hereditary angioedema including Takeda Pharmaceutical Company Limited, BioCryst Pharmaceuticals Inc., Pharming Group N.V., and CSL Limited.

Our competitors will also include companies that are or will be developing other genome editing methods as well as small molecules, biologics, *in vivo* gene therapies, engineered cell therapies (both autologous and allogeneic) and nucleic acid-based therapies for the same indications that we are targeting with our CRISPR/Cas9-based therapeutics.

Any advances in gene therapy, engineered cell therapies or genome editing technology made by a competitor may be used to develop therapies that could compete against any of our product candidates.

Many of these competitors have substantially greater research and development capabilities and financial, scientific, technical, intellectual property, manufacturing, marketing, distribution and other resources than we do, and we may not be able to successfully compete with them.

Even if we are successful in selecting and developing any product candidates, in order to compete successfully we may need to be first-to-market or demonstrate that our CRISPR/Cas9-based products are superior to therapies based on the same or different treatment methods. If we are not first-to-market or are unable to demonstrate such superiority, any products for which we are able to obtain approval may not be commercially successful. Furthermore, in certain jurisdictions, if a competitor has orphan drug status for a product and if our product candidate is determined to be contained within the scope of a competitor's orphan drug exclusivity, then approval of our product for that indication or disease could potentially be blocked, for example, for up to seven years in the U.S. and 10 years in the EU.

We may never succeed in any or all of these activities and, even if we do, we may never generate revenues that are significant or large enough to achieve profitability. 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 our value and could impair our ability to raise capital, maintain our research and development efforts, expand our business or continue our operations.

Risks Related to the Industry

Results, including data from our preclinical and clinical studies, are not necessarily predictive of our other ongoing and future preclinical and clinical studies, and they do not guarantee or indicate the likelihood of approval of any

potential product candidate by the FDA or any other regulatory agency. If we cannot replicate positive results from any of our preclinical or clinical activities and studies, we may be unable to successfully develop, obtain regulatory approval for and commercialize any potential product candidate.

From time to time, we may disclose interim data from our clinical trials, such as the interim results of our ongoing Phase 1 study of NTLA-2001. Interim data from clinical trials that have not been completed are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available or as patients from our clinical trials continue other treatments for their disease. We also make assumptions, estimations, calculations and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, results that we report may differ from future results of the same studies, or different conclusions or considerations may qualify such results, once additional data have been received and fully evaluated. As a result, interim data should be viewed with caution until we make the final data and analysis available.

In addition, there is a high failure rate, as well as potential substantial and unanticipated delays, for product candidates progressing through preclinical and clinical studies. Even if we are able to successfully complete our ongoing and future preclinical and clinical activities and studies for any potential product candidate, we may not be able to replicate, or may have to engage in significant efforts and resource and time investments to replicate, any positive results from these or any other studies in any of our future preclinical and clinical trials, and they do not guarantee approval of any potential product candidate by the FDA or any other necessary regulatory authorities in a timely manner or at all. For more information regarding these risks, see also the above risk factor section entitled "Risks Related to Preclinical and Clinical Development".

Inconclusive results, lack of efficacy, adverse events or additional safety concerns in clinical trials that we or others conduct may impede the regulatory approval process or overall market acceptance of our product candidates.

Therapeutic applications of genome editing technologies, and CRISPR/Cas9 in particular, for both *in vivo* products and *ex vivo* products, are unproven and must undergo rigorous clinical trials and regulatory review before receiving marketing authorization. If the results of our clinical studies or those of any other third parties, including with respect to genome editing technology or engineered cell therapies, are inconclusive, fail to show efficacy or if such clinical trials give rise to safety concerns or adverse events, we may:

- be prevented from, or delayed in, obtaining marketing approval for our product candidates;
- 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;
- be subject to the addition of labeling statements, such as warnings or contraindications, or other types of regulatory restrictions or scrutiny;
- be subject to changes in the way the product is administered;
- be required to perform additional clinical studies to support approval or be subject to additional post-marketing testing requirements;
- have regulatory authorities modify or withdraw their legal requirements or written guidance, if any, regarding the applicable regulatory approval pathway or any approval of the product in question, or impose restrictions on its distribution in the form of a modified Risk Evaluation and Mitigation Strategy ("REMS") or similar strategy;
- be sued; or
- experience damage to our reputation.

Additionally, our product candidates could potentially cause other adverse events that have not yet been predicted and the potentially permanent nature of genome editing effects, including CRISPR/Cas9's effects, on genes or novel cell therapies in the organs of the human body may make these adverse events irreversible. The inclusion of critically ill patients in our clinical studies or those of our competitors may result in deaths or other adverse medical events, including those due to other therapies or medications that such patients may be using. Any of these events could

prevent us from achieving or maintaining regulatory approval or market acceptance of our product candidates and impair our ability to achieve profitability.

Research and development of biopharmaceutical products is inherently risky. We may not be successful in our efforts to use and enhance our genome editing technology to create a pipeline of product candidates, establish the necessary manufacturing capabilities, obtain regulatory approval and develop commercially successful products, or we may expend our limited resources on programs that do not yield a successful product candidate and fail to capitalize on potential product candidates or diseases that may be more profitable or for which there is a greater likelihood of success. If we fail to develop product candidates, our commercial opportunity, if any, will be limited.

We are at an early stage of development and our technology and approach has not yet led, and may never lead, to the approval or commercialization of any of our product candidates, including NTLA-2001 for ATTR amyloidosis, NTLA-2002 for HAE or NTLA-5001 for AML, or for other product candidates being deemed appropriate for clinical development and ultimately approval, including NTLA-3001 for alpha-1 antitrypsin deficiency ("AATD"), by a regulatory agency. Even if we are successful in building our pipeline of product candidates, completing clinical development, establishing the necessary manufacturing processes and capabilities, obtaining regulatory approvals and commercializing product candidates will require substantial additional funding and are subject to the risks of failure inherent in therapeutic product development. Investment in biopharmaceutical product development involves significant risk that any potential product candidate will fail to demonstrate acceptable safety and efficacy profiles, gain regulatory approval, or become commercially viable.

We cannot provide any assurance that we will be able to successfully advance any of our product candidates, including NTLA-2001, NTLA-2002, NTLA-5001 or NTLA-3001, through the entire research and development process. Any of our other programs may show promise, yet fail to yield product candidates for clinical development or commercialization for many reasons. For more information regarding these risks, see the above risk factor section entitled "Risks Related to Clinical Development."

Even if we obtain regulatory approval of any product candidates, such candidates may not gain market acceptance among physicians, patients, hospitals, third-party payors and others in the medical community.

The use of the CRISPR/Cas9 system to create genome editing-based therapies is a recent development and may not become broadly accepted by patients, healthcare providers, third-party payors and other stakeholders. A variety of factors will influence whether our product candidates are accepted in the market, including, for example:

- the clinical indications for which our product candidates are approved;
- the potential and perceived advantages of our product candidates over alternative treatments;
- the incidence and severity of any side effects, including any unintended DNA changes;
- product labeling or product insert requirements of the FDA or other regulatory authorities;
- limitations or warnings contained in the labeling approved by the FDA or other regulatory authorities;
- the timing of market introduction of our product candidates;
- availability or existence of competitive products;
- the cost of treatment in relation to alternative treatments;
- the amount of upfront costs or training required for healthcare providers to administer our product candidates;
- the availability of adequate coverage, reimbursement and pricing by government authorities and other third-party payors;
- patients' ability to access healthcare providers capable of delivering our product candidates;
- patients' willingness and ability to pay out-of-pocket in the absence of coverage and reimbursement by government authorities and other third-party payors;

- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- relative convenience and ease of administration, including as compared to alternative treatments and competitive therapies;
- any restrictions on the use of our product candidates together with other medications;
- interactions of our product candidates with other medicines patients are taking;
- potential adverse events for any products developed, or negative interactions with regulatory agencies, by us or others in the gene therapy and genome editing fields; and
- the effectiveness of our sales and marketing efforts and distribution support.

Even if our products achieve market acceptance, we may not be able to maintain that market acceptance over time if new products or technologies are introduced that are more favorably received than our products, are more cost effective or render our products obsolete. In addition, adverse publicity due to the ethical and social controversies surrounding the therapeutic *in vivo* use of CRISPR/Cas9, gene edited modified cells, or other therapeutics mediums, such as viral vectors that we may use in our clinical trials may limit market acceptance of our product candidates. If our product candidates are approved but fail to achieve market acceptance among physicians, patients, hospitals, third-party payors or others in the medical community, we will not be able to generate significant revenue. Our efforts to educate the healthcare providers, patients and third-party payors about our products may require significant resources and may never be successful.

Risks Related to Healthcare

Coverage and reimbursement may be limited or unavailable in certain market segments for our product candidates, if approved, which could make it difficult for us to sell any product candidates or therapies profitably.

The success of our product candidates, if approved, depends on the availability of adequate coverage and reimbursement from third-party payors, including government agencies, private health insurers and health maintenance organizations. There is significant uncertainty related to the insurance coverage and reimbursement of any newly approved product, but in particular novel gene editing and engineered cell products. All the therapeutic indications approved by the relevant authorities may not be covered or reimbursed. In addition, we cannot be sure that coverage and reimbursement will be available for, or accurately estimate the potential revenue from, our product candidates because they are novel treatments for diseases using a new technology and delivery approaches.

In the U.S. and some other jurisdictions, patients generally rely on third-party payors to reimburse all or part of the costs associated with their treatment. Adequate coverage and reimbursement from governmental healthcare programs, such as Medicare and Medicaid in the U.S., and commercial payors are critical to new product acceptance.

Government authorities and other third-party payors, such as private health insurers and health maintenance organizations, decide which drugs and treatments they will cover and the amount of reimbursement. In the U.S., the principal decisions about reimbursement for new medicines are typically made by the Centers for Medicare & Medicaid Services (“CMS”), an agency within the U.S. Department of Health and Human Services. CMS decides whether and to what extent a new medicine will be covered and reimbursed under Medicare, and private payors often follow CMS’ coverage decisions. Other jurisdictions have agencies, such as the National Institute for Health and Care Excellence (“NICE”) in the U.K., that evaluate the use and cost-effectiveness of therapies, which impact the utilization and price of the medicine in such jurisdiction.

In the U.S., no uniform policy of coverage and reimbursement for products exists among third-party payors. As a result, obtaining coverage and reimbursement approval of a product from a third-party payor is a time-consuming and costly process that could require us to provide supporting scientific, clinical and cost-effectiveness data for the use of our products to each potential payor, with no assurance that coverage and adequate reimbursement will be obtained from all or any of them. Even if we obtain coverage for a given product, the resulting reimbursement payment rates might be insufficient or may require co-payments that patients find unacceptably high, which may prevent us from achieving or sustaining profitability. Additionally, third-party payors may not cover, or provide adequate reimbursement for, long-term follow-up evaluations required following the use of our gene-modifying products.

In addition, each country in which we seek approval to market our product candidates has unique laws and market practices regulating coverage and reimbursement for human therapeutics. Market acceptance and sales of our products in each country will depend on our ability to meet each of these jurisdiction's requirements for coverage and reimbursement. Further, changes to the country's existing requirements may also affect our ability to commercialize our products in the future, or achieve profitability from their sale.

We may be subject, directly or indirectly, to federal and state healthcare fraud and abuse laws, false claims laws, physician payment transparency laws, health information privacy and security laws and anti-corruption laws. If we are unable to comply, or have not fully complied, with such laws or their relevant foreign counterparts, we could face substantial penalties.

The sale, distribution and marketing of human therapeutics and the relationship with healthcare providers are strictly regulated by laws in the U.S. and most other jurisdictions in which we intend to seek approval for our product candidates. In addition, the collection and use of personally identifiable information, including health-related information, is regulated by federal, state and foreign privacy, data security and data protection laws. Failure to comply with these laws could impair our ability to properly sell our product candidates in particular jurisdictions and subject us to liability from private and governmental entities. In addition, addressing these diverse and sometimes contradictory requirements in myriad jurisdictions may necessitate that we expend significant resources on compliance efforts. Any failure to comply with these requirements may leave us exposed to possible enforcement actions and potential liability.

The laws that may affect our ability to operate include:

- the federal Anti-Kickback Statute, which generally prohibits, among other things, knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe, or certain rebates) for referring an individual or inducing a transaction for which payment may be made under a federal healthcare program, such as the Medicare and Medicaid programs. 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. Violators are subject to civil and criminal fines and penalties, as well as imprisonment and exclusion from government healthcare programs;
- federal civil and criminal false claims laws, including the federal False Claims Act ("FCA"), which generally prohibit knowingly making false or fraudulent claims for payment or approval from the federal government, including Medicare, Medicaid and other government payors, or knowingly seeking to conceal, decrease or avoid an obligation to pay money to the federal government. Certain indirect acts, such as promoting products off-label, can be deemed FCA violations by a manufacturer even it did not submit the claim directly to the government payor. Further, under the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, the "Affordable Care Act", or "ACA"), a violation of the federal Anti-Kickback Statute may also constitute a false or fraudulent claim under the FCA. These laws impose criminal and civil penalties on violators. Private individuals may bring civil whistleblower or *qui tam* actions for alleged FCA violations on behalf of the federal government;
- the U.S. federal physician payment transparency requirements, sometimes referred to as the "Physician Payments Sunshine Act," created under the ACA, and their implementing regulations, which require manufacturers of certain products paid under Medicare, Medicaid or the Children's Health Insurance Program, including biopharmaceutical products, to report information related to payments or other consideration made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), other healthcare providers and teaching hospitals, as well as ownership and investment interests held by these healthcare providers and their immediate family members in the manufacturer. Failure to comply could result in civil monetary penalties. Effective January 1, 2022, the U.S. federal physician transparency reporting requirements will extend to include transfers of value made to certain non-physician providers (physician assistants, nurse practitioners, clinical nurse specialists, certified registered nurse anesthetists & anesthesiologist assistants, and certified nurse-midwives);
- the Foreign Corrupt Practices Act ("FCPA") and other laws, which generally prohibit improper payments or offers of payments to foreign governments and their officials and political parties by U.S. persons and

entities to obtain or retain business. In the U.K., for example, the U.K. Bribery Act 2010 prohibits giving financial or other advantages to encourage persons to perform their functions improperly;

- the Federal Food, Drug and Cosmetic Act, which prohibits the commercialization of adulterated or misbranded drugs, and the Public Health Service Act, which prohibits the commercialization of biological products without a biologics license;
- analogous state and foreign legal requirements that:
    - may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and may be broader in scope than their federal equivalents, such as state anti-kickback and false claims laws;
    - require following the pharmaceutical industry's voluntary compliance guidelines and the federal government's relevant compliance guidance, or otherwise restrict payments to healthcare providers;
    - require reporting information related to payments and other consideration to physicians and other healthcare providers or marketing expenditures; and
- other national and local laws that govern the distribution and sale of pharmaceuticals, including imposing requirements regarding licensing, record-keeping, storage and security requirements.

The scope and enforcement of each of these laws is not always certain and is subject to legislative, judicial or prosecutorial changes. Further, because of the breadth of these laws, it is possible that some of our business activities could be subject to challenge under one or more of such laws. Indeed, U.S. federal and state enforcement bodies have increasingly scrutinized healthcare companies and providers interactions, which has led to a number of investigations, prosecutions, convictions and settlements in the industry. Ensuring business arrangements comply with applicable laws, as well as responding to possible investigations by government authorities, can be time- and resource-consuming and can divert a company's attention from its business.

The increasingly global nature of our business operations, including clinical development efforts, subjects us to domestic and foreign anti-bribery and anti-corruption laws and regulations, such as the FCPA and the U.K. Bribery Act. These activities create the risk of unauthorized payments or offers of payments that are prohibited under the FCPA, the U.K. Bribery Act or similar laws. It is our policy to implement safeguards to discourage these practices by our employees and agents. However, these safeguards may ultimately prove ineffective, and our employees, consultants, and agents may engage in conduct for which we might be held responsible. Violations of the FCPA may result in severe criminal or civil sanctions, and we may be subject to other liabilities, which could negatively affect our business, operating results and financial condition.

Further, the U.S. federal and state government, as well as other jurisdictions, have myriad laws regulating the collection, storage, distribution and use of data of employees, patients, agents, and others. These different laws governing the privacy and security of health and other personal information often differ from each other in significant ways and may not have the same effective requirements, thus complicating efforts to comply with their respective provisions. For example:

- in the U.S., HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 ("HITECH"), imposes requirements relating to the privacy, security and transmission of individually identifiable health information on certain covered healthcare providers, health plans, and healthcare clearinghouses, and their respective business associates that perform services for them that involve the use or disclosure of such information. These laws impose civil and criminal monetary penalties, and give state attorneys general the authority to file civil actions for damages or injunctions, and attorney's fees, in federal courts to enforce the laws;
- the California Consumer Privacy Act ("CCPA") requires covered companies to provide new disclosures to California consumers and afford such consumers new rights with respect to their personal information, including the rights to: request deletion of their information, receive the information on record for them, know what categories of information are being maintained about them, and opt-out of certain sales of their

information. The CCPA provides for civil penalties for violations, as well as a private right of action for certain data breaches that result in the loss of personal information, which may increase the likelihood of, and risks associated with, data breach litigation. The CCPA became effective in January 2020 and enforceable in July 2020;

- other U.S. states, such as Massachusetts, Nevada, Illinois, Colorado, Virginia, Pennsylvania, Ohio, North Carolina, New Jersey and New York, have enacted and/or are considering laws that impose stringent privacy and/or data security requirements and, most notably, stringent new privacy laws will become effective in Colorado, Virginia and California in 2023; and
- around the world, many countries have enacted laws that regulate data protection. In the EU and European Economic Area ("EEA") the collection and use of personal data is regulated by the General Data Protection Regulation ("GDPR") and the member states' related data protection and privacy laws, and in the U.K. by its Data Protection Act 2018 and, as of January 1, 2021, the U.K. GDPR (such laws collectively being described as "European Data Protection Law"). Because the European Data Protection Law applies not only to businesses that are established within the EU but also to any business that offers goods or services to individuals in the EU or U.K., it could apply to us. European Data Protection Law imposes strict requirements, including special protections for "sensitive" personal data which includes health and genetic information of individuals in the EU or the U.K.; expanded disclosures about the personal data use; information retention limitations; mandatory data breach notification requirements; and additional oversight obligations relating to third-parties retained to process the personal data. European Data Protection Law grants or enhances the rights of individuals with respect to their personal data, including the rights to object to the processing of the data and request deletion of the same. It also has strict requirements on the transfer of personal data out of the EU or the U.K. to jurisdictions that have not been deemed to offer "adequate" privacy protections, such as the U.S. Failure to comply with the requirements of the European Data Protection Law may result in warning letters, mandatory audits, orders to cease/change the use of data, and financial penalties, including fines of up to 4% of global revenues, or 20,000,000 Euro, whichever is greater. Moreover, data subjects can seek damages for violations, and non-profit organizations can bring claims on behalf of data subjects.

The costs associated with ensuring compliance with these laws, including in particular European Data Protection Law, may be onerous and adversely affect our business, financial condition, results of operations and prospects. Further, due to Brexit, we may have additional costs and operational challenges in complying with the U.K. GDPR and any other developments regulation the transfer between the U.K. and EU. We may also need to rely on multiple third parties to meet these legal requirements, which could result in additional liability for us if they do not comply.

Efforts to ensure that we comply with all applicable healthcare and data privacy laws and regulations, as well as other domestic and foreign legal requirements, will involve substantial costs. It is possible that governmental and enforcement authorities in the U.S. or outside the U.S. will conclude that our business practices do not comply with current or future legal requirements. If any noncompliance 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, including the imposition of significant civil, criminal and administrative penalties, damages, disgorgement, monetary fines, individual imprisonment, exclusion from participation in federal healthcare programs (such as Medicare and Medicaid), contractual damages, reputational harm, diminished profits and future earnings, and curtailment or restructuring of our operations, as well as additional reporting obligations and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws, any of which could adversely affect our ability to operate our business and our results of operations. Any action for violation of these laws, even if successfully defended, could result in significant legal expenses and divert management's attention from the operation of the business. Prohibitions or restrictions on sales (including importation or exportation) or withdrawal of future marketed products could materially affect business in an adverse way.

Healthcare cost control initiatives, including healthcare legislative and regulatory reform measures, may have a material adverse effect on our business and results of operations.

The U.S. and many other jurisdictions have enacted or proposed legal changes affecting the healthcare system that could prevent or delay marketing approval of our product candidates, affect our ability to profitably sell our product candidates once approved, and restrict or regulate post-approval activities. Changes in the legal requirements, or their

interpretation, could impact our business by compelling, for example, modification to: our manufacturing arrangements; product labeling; pricing and reimbursement arrangements; private or governmental insurance coverage; the sale practices for, or availability of, our products; or record-keeping activities. If any such changes were to be imposed, they could adversely affect the operation of our business.

Third-party payors, whether domestic or foreign, or governmental or commercial, are developing increasingly sophisticated methods of controlling healthcare costs. In the U.S. and certain other jurisdictions, there have been, and are expected to continue to be, a number of legislative and regulatory changes to the healthcare system that could impact our ability to sell our products profitably. In the U.S., however, significant uncertainty exists regarding the provision and financing of healthcare because the newly elected administration and federal legislators have publicly declared their intention to review and potentially significantly modify the current legal and regulatory framework for the healthcare system.

Current legislation at the U.S. federal and state levels seeks to reduce healthcare costs and improve the quality of healthcare. For example, the U.S. Affordable Care Act, enacted in March 2010, subjected biologic products to potential competition by lower-cost biosimilars; introduced a new methodology to calculate manufacturers' rebates under the Medicaid Drug Rebate Program for certain drugs, including infused or injected drugs; increased manufacturers' minimum Medicaid rebates under the Medicaid Drug Rebate Program; extended the Medicaid Drug Rebate program to pharmaceutical prescriptions of individuals enrolled in Medicaid managed care organizations; imposed new annual fees and taxes for certain branded prescription drugs and biologic agents; created the Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 70% point-of-sale discounts as of January 1, 2019, off negotiated prices on certain brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D; and provided incentives to programs that increase the federal government's comparative effectiveness research. At this time, the full effect that the Affordable Care Act would have on our business remains unclear.

Since its enactment, there have been numerous judicial, administrative, executive, and legislative challenges to certain aspects of the ACA and we expect there will be additional challenges and amendments to the ACA in the future. The Tax Cuts and Jobs Act of 2017 ("Tax Act") includes a provision that decreased the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year, commonly referred to as the "individual mandate," to $0, effective January 1, 2019. On December 14, 2018, a federal district court in Texas ruled the individual mandate is a critical and inseverable feature of the ACA and, therefore, because it was repealed as part of the Tax Act, the remaining provisions of the ACA are invalid as well. On December 18, 2019, the Fifth Circuit U.S. Court of Appeals ("Fifth Circuit") held that the individual mandate is unconstitutional, and remanded the case to the lower court to reconsider its earlier invalidation of the full ACA. Following an appeal by certain defendants, on June 17, 2021, the U.S. Supreme Court dismissed the plaintiffs' challenge to the ACA for lack of standing without specifically ruling on the constitutionality of the ACA, and reversed the Fifth Circuit's judgment and remanded the case with instructions to dismiss. It is unclear how other healthcare reform measures of the Biden administrations or other efforts, if any, to challenge, repeal or replace the ACA, will impact our business.

Other legislative changes relevant to the healthcare system have been adopted in the U.S. since the Affordable Care Act was enacted. In August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers of 2% per fiscal year, which went into effect in April 2013, and, due to subsequent legislative amendments, will remain in effect through 2030 unless additional Congressional action is taken. However, pursuant to the Coronavirus Aid, Relief and Economic Security Act (the "CARES Act") and subsequent legislation, the Medicare sequester reductions under the Budget Contract Act of 2011 have been suspended from May 1, 2020 through December 31, 2021 due to the COVID-19 pandemic. In January 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, further reduced Medicare payments to several providers, including hospitals, imaging centers, cancer centers and other treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

Additionally, on July 9, 2021, President Biden issued an executive order directing the FDA to, among other things, work with states and tribes to safely import prescription drugs from Canada and to continue to clarify and improve the approval framework for generic drugs and biosimilars, including the standards for interchangeability of biological products, facilitate the development and approval of biosimilar and interchangeable products, clarify existing requirements and procedures related to the review and submission of BLAs, and identify and address any efforts to impede generic drug and biosimilar competition. It is unclear whether the FDA will make changes or additions to current requirements and procedures relating to BLAs and, if so, how such changes or additions could impact our business.

There have been, and likely will continue to be, legislative and regulatory proposals at the foreign, federal and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. As indicated previously, significant uncertainty exists regarding the future scope and effect of current healthcare legislation and regulations because of recent changes in U.S. executive and legislative branches, and elected officials' public declarations of their intention to significantly modify or repeal the current legislative framework. We cannot predict the initiatives that may be adopted in the future, any of which could limit or modify the amounts that foreign, federal and state governments as well as private payors, including patients, will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

Risks Related to Manufacturing and Supply

In vivo *genome editing products and* ex vivo *engineered cell therapies based on CRISPR/Cas9 genome editing technology are novel and may be complex and difficult to manufacture. We could experience manufacturing problems that result in delays in the development, approval or commercialization of our product candidates or otherwise harm our business.*

The manufacturing process used to produce CRISPR/Cas9-based *in vivo* and engineered cell therapy product candidates may be complex, as they are novel and have not been validated for late phase clinical and commercial production and may require components that are difficult to obtain or manufacture at the necessary quantities and in accordance with regulatory requirements. Several factors could cause production interruptions, including equipment malfunctions; facility unavailability or contamination; raw material cost, shortages or contamination; natural disasters, such as the COVID-19 pandemic; disruption in utility services; human error; insufficient personnel; inability to meet legal or regulatory requirements; or disruptions in the operations of our suppliers.

Because our product candidates likely will be regulated as biologics, their processing steps will be more complex than those of most small molecule drugs. Moreover, unlike small molecules, the physical and chemical properties of a complex product such as ours generally cannot be fully characterized. As a result, assays of the finished product or relevant components may not be sufficient to ensure that the product will perform in the intended manner. For this reason, we will employ multiple steps to control the manufacturing process to ensure that the process results in product candidates that meet their specifications, but complications at any one step could adversely impact our manufacturing of products. Further, we may encounter problems achieving adequate quantities and quality of clinical grade materials that meet the FDA or other relevant regulatory agency's applicable standards or our specifications with consistent and acceptable production yields and costs. Manufacturing process irregularities, even minor deviations from the normal process, could result in product defects or manufacturing issues that cause lot failures, product recalls, product liability claims and litigation, insufficient inventory or production interruption. In addition, product manufacturing and supply could be delayed if the FDA and other regulatory authorities require us to submit lot samples, testing results and protocols, or if they require that we not distribute a lot until they authorize the product's release.

Further, certain of our product candidates may require components that are unavailable or difficult to acquire or manufacture at the necessary scale and in compliance with regulatory requirements to support our clinical trials or, if approved, commercial efforts. In addition, we rely on third-party contract manufacturing organizations ("CMOs") to manufacture these components and the final product candidates. We may not have full control of these CMOs and they may prioritize other customers or be unable to provide us with enough manufacturing capacity to meet our objectives. Even if we decide to manufacture the product candidates or their components ourselves, we may face extremely high costs and long timelines to build and maintain manufacturing facilities. Further, we may rely on CMOs outside the U.S. for certain components of our product candidates, and may be subject to importation regulations that may affect our ability to manufacture or increase the cost of our product candidates.

We also may encounter problems hiring and retaining the experienced scientific, quality-control and manufacturing personnel needed to operate or supervise the necessary manufacturing processes, which could result in delays in production or difficulties in maintaining compliance with applicable regulatory requirements.

Any of these manufacturing and supply issues or delays could restrict our ability to meet clinical or market demand for our products, and be costly to us and otherwise harm our business, financial condition, results of operations and prospects. Further, any problems in manufacturing processes or facilities 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.

Risks Related to Data and Privacy

Our internal computer systems, or those of our collaborators or other contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our operations and development efforts.

We are increasingly dependent upon information technology systems, infrastructure, and data to operate our business. In the ordinary course of business, we collect, store, and transmit large amounts of confidential information (including but not limited to intellectual property such as trade secrets, proprietary business information, and personal information). It is critical that we do so in a secure manner to maintain the confidentiality and integrity of such confidential information. We also have outsourced elements of our operations to third parties, and as a result we manage a number of third-party vendors who may or could have access to our confidential information. Our third-party collaborators, vendors and service providers (including our CMOs and CROs) also have access to large amounts of confidential information relating to our operations, including our research and development efforts. The size and complexity of our information technology systems, and those of third-party vendors, service providers and collaborators, and the large amounts of confidential information stored on those systems, make such systems potentially vulnerable to service interruptions or systems failures, or to security breaches from inadvertent or intentional actions by our employees, third-party vendors, service providers, collaborators, and/or business partners, or from cyber-attacks by malicious third parties.

In addition to such risks, the adoption of new technologies may also increase our exposure to cybersecurity breaches and failures. Further, having a significant portion of our workforce working from home for extended periods of time due to the COVID-19 pandemic puts us at greater risk of cybersecurity attacks. Cyber-attacks are increasing in their frequency, sophistication, and intensity, and have become increasingly difficult to detect. Cyber-attacks could include the deployment of harmful malware, denial-of-service attacks, social engineering, “phishing” scams, ransomware, network security breaches, and other means to affect service reliability and threaten the confidentiality, integrity, and availability of information. Certain of our service providers have been subject to such attacks and our company or our service providers may be impacted by such attacks in the future. Significant disruptions of these information technology systems or security breaches could adversely affect our business operations and/or result in the loss, misappropriation, and/or unauthorized access, use, or disclosure of, or the prevention of access to, confidential information (including but not limited to trade secrets or other intellectual property, proprietary business information, and personal information), and could result in financial, legal, business, and reputational harm to us and would adversely affect our operations, including our discovery and research and development programs. For example, any such event that leads to unauthorized access, use, or disclosure of personal information, including personal information regarding our employees or current or future clinical trial participants, could harm our reputation, require us to comply with federal and/or state breach notification laws and foreign law equivalents (such as the GDPR or the U.K.’s Data Protection Act), and otherwise subject us to liability, including financial penalties and fines, under laws and regulations that protect the privacy and security of personal information. Also, the loss of preclinical or clinical trial data from completed or future preclinical or clinical trials, respectively, could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability, our competitive position could be harmed and the further development and commercialization of our product candidates could be delayed. Security breaches and other inappropriate access can be difficult to detect, and any delay in identifying them may lead to increased harm of the type summarized and described above. While we have implemented security measures to protect our information technology systems and infrastructure, there is no assurance that such measures will prevent service interruptions or security breaches that could adversely affect our business.

Interruptions in the availability of server systems or communications with internet or cloud-based services, or failure to maintain the security, confidentiality, accessibility or integrity of data stored on such systems, could harm our business.

We rely upon a variety of internet service providers, third-party web hosting facilities and cloud computing platform providers and Software as a Service vendors to support our business. Failure to maintain the security, confidentiality, accessibility or integrity of data stored on such systems could result in interruptions in our operations, damage our reputation in the market, increase our service costs, cause us to incur substantial costs, subject us to liability for damages and/or fines, and divert our resources from other tasks, any one of which could materially adversely affect our business, financial condition, results of operations and prospects. If our security measures or those of our third-party data center hosting facilities, cloud computing platform providers, or third-party service partners, are breached, and unauthorized access is obtained to our data or our information technology systems, we may incur significant legal and financial exposure and liabilities.

We also do not have control over the operations of the facilities of our cloud service providers, software as a service vendors or our third-party web hosting providers, and they also may be vulnerable to damage or interruption from natural disasters, cybersecurity attacks, terrorist attacks, power outages and similar events or acts of misconduct. In addition, any changes in these providers' service levels may adversely affect our ability to meet our requirements and operate our business.

Social media platforms present new risks and challenges to our business.

As social media continues to expand, it also presents us with new risks and challenges. Social media is increasingly being used to communicate information about us, our programs and the diseases our therapeutics are being developed to treat. Social media practices in the pharmaceutical and biotechnology industries are evolving, which creates uncertainty and risk of noncompliance with regulations applicable to our business. For example, patients may use social media platforms to comment on the effectiveness of, or adverse experiences with, a product or a product candidate, which could result in reporting obligations or other consequences. Further, the accidental or intentional disclosure of non-public information by our workforce or others through media channels could lead to information loss. In addition, there is a risk of inappropriate disclosure of sensitive information or negative or inaccurate posts or comments about us, our products, or our product candidates on any social media platform. The immediacy of social media precludes us from having real-time control over postings made regarding us via social media, whether matters of fact or opinion. Our reputation could be damaged by negative publicity or if adverse information concerning us is posted on social media platforms or similar mediums, which we may not be able to reverse. If any of these events were to occur or we otherwise fail to comply with applicable regulations, we could incur liability, face restrictive regulatory actions or incur other harm to our business including quick and irreversible damage to our reputation, brand image and goodwill.

Risks Related to the COVID-19 Pandemic

Business interruptions resulting from the COVID-19 outbreak or similar public health crises could delay or cause a disruption of the development of our product candidates and adversely impact our business.

Public health crises, such as pandemics or similar outbreaks, could adversely impact our business. The current COVID-19 pandemic has continuously evolved, and to date has led to the implementation of various responses, including government-imposed quarantines, travel restrictions and other public health safety measures, as well as reported adverse impacts on healthcare resources, facilities and providers, in Massachusetts, across the U.S. and in other countries. The U.S. government, as well as certain foreign governments, have imposed restrictions on travel to or from the U.S. and other jurisdictions, which may delay or prevent us from conducting our business in a timely and efficient manner. The extent to which COVID-19 impacts our operations or those of our third-party partners will depend on future developments, which are highly uncertain and cannot be predicted with confidence, including the duration of the outbreak, the identification of new variants of the virus, additional or modified government actions, new information that will emerge concerning the severity and impact of COVID-19 and the actions to contain COVID-19 or address its impact in the short and long term, among others.

Additionally, completion of our clinical trials for NTLA-2001 for ATTR amyloidosis, NTLA-2002 for HAE and NTLA-5001 for AML as well as timely completion of preclinical activities and initiation of planned clinical trials for other product candidates, such as NTLA-3001 for AATD, is dependent upon the availability of, for example,

preclinical and clinical trial sites, researchers and investigators, regulatory agency personnel, and materials, which may be adversely affected by global health matters, such as pandemics. We plan to conduct preclinical activities and clinical trials for our investigational drug product candidates in geographies that are currently being affected by COVID-19.

Further, in response to the pandemic and in accordance with direction from state and local government authorities, we have restricted and may continue to restrict access to our facilities mostly to personnel and third parties who must perform critical activities that must be completed on-site, limited the number of such personnel that can be present at our facilities at any one time, and requested that personnel work remotely, as appropriate. In the event that governmental authorities were to further modify current restrictions, our employees conducting research and development or manufacturing activities may not be able to access our laboratory or manufacturing space, and our core activities may be significantly limited or curtailed, possibly for an extended period of time.

Some factors from the COVID-19 pandemic that could delay or otherwise adversely affect the completion of our preclinical activities and our ongoing and planned clinical trials for our investigational drug product candidates, as well as our business generally, include:

- the potential diversion of healthcare resources away from the conduct of preclinical activities and clinical trials to focus on pandemic concerns, including the availability of necessary materials and the attention of physicians serving as our clinical trial investigators, hospitals serving as our clinical trial sites and hospital staff supporting the conduct of our prospective clinical trials;
- risk that participants enrolled in our clinical trials will contract COVID-19 while the clinical trial is ongoing, which could impact the results of the clinical trial, including by increasing the number of observed adverse events;
- risk that we are unable to enroll and retain participants in our clinical trials in adequate numbers;
- limitations on travel that could interrupt key preclinical activities and trial activities, such as limited operations at laboratory facilities, clinical trial site initiations and monitoring, domestic and international travel by employees, contractors or patients to clinical trial sites, including any government-imposed travel restrictions or quarantines that will impact the ability or willingness of patients, employees or contractors to travel to our research, manufacturing and clinical trial sites or secure visas or entry permissions, any of which could delay or adversely impact the conduct or progress of our prospective clinical trials;
- delays in necessary interactions with local regulators, ethics committees and other important agencies and contractors due to limitations in employee resources or forced furlough of government employees;
- interruption, delays or backlogs in the operations of the FDA, MHRA and comparable domestic and foreign regulatory agencies, which may impact review, inspection, authorization and approval timelines;
- interruption in global shipping affecting the transport of clinical trial materials, such as patient samples, investigational drug product candidates and conditioning drugs, raw materials and other supplies used in our prospective clinical trials;
- interruption of, or delays in receiving, supplies of our investigational drug product from our CMOs due to staffing shortages, production slowdowns or stoppages and disruptions in delivery systems;
- limitations on our business operations by local, state, or the federal government that could impact our ability to conduct our preclinical or clinical activities, including completing our IND-enabling studies or our ability to select future development candidates;
- 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, or communication or mass transit disruptions, any of which could adversely impact our business operations or delay necessary interactions with local regulators, ethics committees, manufacturing sites, research or clinical trial sites and other important agencies and contractors;

- business disruptions or cybersecurity risks associated with a substantial portion of our workforce working from home for extended periods of time; and
- the impact on the valuation of our marketable securities and other financial assets due to market volatility.

These and other factors arising from COVID-19 could worsen in countries that are already afflicted with coronavirus or could continue to spread to additional countries, each of which could further adversely impact our ability to conduct clinical trials and our business generally, and could have a material adverse impact on our operations and financial condition and results.

In addition, the trading prices for our common stock and other biopharmaceutical companies have been highly volatile as a result of the COVID-19 pandemic. As a result, we may face difficulties raising capital through sales of our common stock or such sales may be on unfavorable terms. The COVID-19 outbreak continues to rapidly evolve. The extent to which the outbreak may impact our business, preclinical studies and ongoing and planned clinical trials will depend on future developments, which are highly uncertain and cannot be predicted with confidence, such as the ultimate geographic spread of the disease, the duration of the outbreak, travel restrictions and other actions to contain the outbreak or address its impact, such as social distancing and quarantines or lock-downs in the U.S. and other countries, business closures or business disruptions and the effectiveness of actions taken in the U.S. and other countries to contain and address the disease.

Risks Related to Commercialization

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

We do not currently have a sales, marketing or distribution infrastructure and, as a company, have no experience in the sale, marketing or distribution of therapeutic products. To achieve commercial success for any 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. There are risks involved with both establishing our own sales and marketing capabilities and entering into arrangements with third parties to perform these services.

Factors that may inhibit our efforts to commercialize our product candidates 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 candidates 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;
- the location of patients in need of our product candidates and the treating physicians who may prescribe the products; and
- unforeseen costs and expenses, as well as legal and regulatory requirements, associated with creating and operating a sales and marketing organization.

If we enter into arrangements with third parties to perform sales, marketing and distribution services, we would likely have lower product revenue or profitability than if we ourselves were to market and sell our product candidates. In addition, we may be unable to enter into sales and marketing arrangements with third parties, or into arrangements with 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, marketing and distribution capabilities successfully, either on our own or through third parties, we may not be successful in commercializing our product candidates, and our business, results of operations, financial condition and prospects will be materially adversely affected.

Risks Related to Our Financial Position and Need for Additional Capital

Risks Related to Past Financial Condition

We have never generated any revenue from product sales and our ability to generate revenue from product sales and become profitable depends significantly on our success in a number of areas.

We have no products approved for commercial sale, have not generated any revenue from product sales, and do not anticipate generating any revenue from product sales until we have received regulatory approval for the commercial sale of one of our product candidates. Our ability to generate revenue, and achieve and retain profitability, depends significantly on our success in many areas, including:

- selecting commercially viable product candidates and effective delivery methods;
- successfully completing research, preclinical and clinical development of product candidates;
- obtaining regulatory approvals and marketing authorizations for product;
- developing a sustainable and scalable manufacturing process for product candidates, including establishing and maintaining commercially viable supply relationships with third parties, such as CMOs, and potentially establishing our own manufacturing capabilities and infrastructure;
- investing significant resources in developing large scale manufacturing, analytical processes, and operational infrastructure prior to clinical evidence of safety and efficacy for a given product candidate;
- launching and commercializing product candidates for which we obtain regulatory approvals and marketing authorizations, either directly or with a collaborator or distributor;
- accurately assessing the size and addressability of potential patient populations;
- obtaining market acceptance of our product candidates as viable treatment options;
- addressing any competing technological and market developments;
- negotiating favorable terms in any collaboration, licensing or other arrangements into which we may enter or which may be necessary for us to develop, manufacture or commercialize our product candidates;
- maintaining good relationships with our collaborators and licensors;
- maintaining, protecting and expanding our portfolio of intellectual property rights, including patents, trade secrets and know-how;
- avoiding infringement of or obtaining licenses to any valid intellectual property owned or controlled by third parties; and
- attracting, hiring and retaining qualified personnel.

Even if one or more product candidates that we discover and develop are approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product candidate and the timing of such costs may be out of our control. If we are not able to generate revenue from the sale of any approved products, we may never become profitable.

Our limited operating history may make difficult the evaluation of our business's success to date and assessment of our future viability.

We are an early clinical-stage company. We were founded and commenced operations in mid-2014. All of our product candidates are still in the preclinical development or early clinical stage. We have not yet demonstrated our ability to successfully complete any clinical trials, including large-scale, pivotal clinical trials, obtain marketing approvals, manufacture clinical and commercial scale therapeutics, or arrange for a third-party to do so on our behalf, or conduct sales and marketing activities necessary for successful commercialization. Our ability to generate product revenue or profits, which we do not expect will occur for many years, if ever, will depend heavily on the successful development and eventual commercialization of our product candidates, which may never occur. We may never be able to develop or commercialize a marketable product.

Each of our programs may require additional discovery research and then preclinical and clinical development, regulatory approval in multiple jurisdictions, obtaining manufacturing supply, capacity and expertise, building of a commercial organization, substantial investment and significant marketing efforts before we generate any revenue from product sales. In addition, our product candidates must be approved for marketing by the FDA, or certain other foreign regulatory agencies, before we may commercialize any product.

Our limited operating history, particularly in light of the rapidly evolving genome editing field, may make it difficult to evaluate our current business and predict our future performance. Our relatively 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.

We have incurred net losses in each period since our inception, anticipate that we will continue to incur net losses in the future and may never achieve profitability.

We are not profitable and have incurred losses in each period since our inception. Our net loss was $81.2 million for the three months ended December 31, 2021. As of December 31, 2021, we had an accumulated deficit of $703.0 million. We expect these losses to increase as we continue to incur significant research and development and other expenses related to our ongoing operations, seek regulatory approvals for our future product candidates, scale-up manufacturing capabilities, maintain, expand and protect our intellectual property portfolio and hire additional personnel to support the development of our product candidates and to enhance our operational, financial and information management systems. Although we believe that our cash, cash equivalents, and marketable securities will enable us to fund our operating and capital expenditure requirements at least through the next twenty four months, we cannot predict the impact of the COVID-19 pandemic on future results of operations and financial condition due to a variety of factors, including the health of our employees, the ability of suppliers to continue to operate and deliver, the ability of Intellia to maintain operations, continued access to transportation resources, any further government and/or public actions taken in response to the pandemic and ultimately the length of the pandemic. We expect to finance our operations through a combination of collaboration revenue, equity or debt financings or other sources, which may include collaborations with third parties. Given the impact of COVID-19 on the U.S. and global financial markets, we may be unable to access further equity or debt financing when needed.

A critical aspect of our strategy is to invest significantly in our technology to improve the efficacy and safety of potential product candidates that we discover. Even if we succeed in discovering, developing and ultimately commercializing one or more of these product candidates, we will continue to incur losses for the foreseeable future relating to our substantial research and development expenditures to develop our technologies. We may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business, such as the COVID-19 pandemic. The size of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenue. Our prior losses and expected future losses have had and will continue to have an adverse effect on our stockholders' equity and working capital. Further, the net losses we incur may fluctuate significantly from quarter to quarter and year to year, such that a period-to-period comparison of our results of operations may not be a good indication of our future performance.

Risks Related to Future Financial Condition

We may need to raise substantial additional funding to fund our operations. If we fail to obtain additional financing, we may be unable to complete the development and commercialization of any product candidates.

Our operations have required substantial amounts of cash since inception, and we expect to spend substantial amounts of our financial resources on our discovery programs going forward and future development efforts. Before obtaining marketing approval from regulatory authorities for the sale of any product candidate, we must complete preclinical development, manufacture (or have manufactured) product candidates and components, and then conduct extensive clinical trials to demonstrate the safety and efficacy of any of our future product candidates in humans. Because preclinical and clinical testing is expensive and can take many years to complete, we may require additional funding to complete these undertakings. Further, if we are able to identify product candidates that are eventually approved, we will require significant additional amounts in order to launch and commercialize our product candidates. For the foreseeable future, we expect to continue to rely on additional financing to achieve our business objectives. Our future capital requirements will depend on and could increase significantly as a result of many factors, including the scope,

progress, results and costs of drug discovery, preclinical development, laboratory testing and clinical trials for our current or future product candidates, including additional expenses attributable to adjusting our development plans (including any supply related matters).

We will require additional capital for the further development and commercialization of any product candidates and may need to raise additional funds sooner if we choose to expand more rapidly than we presently anticipate or due to other unanticipated factors. Disruptions in the financial markets in general and, more recently, due to the COVID-19 pandemic have made equity and debt financing more difficult to obtain, and may have a material adverse effect on our ability to meet our fundraising needs.

We cannot be certain that additional funding will be available on acceptable terms, or at all. We have no committed source 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, manufacture or commercialization of our product candidates or other research and development initiatives. Our collaboration and license agreements may also be terminated if we are unable to meet the payment or other obligations under the agreements. We could be required to seek collaborators for product candidates at an earlier stage than otherwise would be desirable or on terms that are less favorable than might otherwise be available or relinquish or license on unfavorable terms our rights to product candidates in markets where we otherwise would seek to pursue development or commercialization ourselves.

Any of the above events could significantly harm our business, prospects, financial condition and results of operations and cause the price of our common stock to decline.

Raising additional capital may cause dilution to our stockholders and restrict our operations.

We will need additional capital in the future to continue our planned operations. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our existing stockholders may be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common stockholders. In addition, the impact on the economic and financial markets of the COVID-19 pandemic has depressed the valuation of public companies, which could require selling equity at lower prices to ensure appropriate capitalization. Debt financing and preferred equity 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 or declaring dividends.

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

Our results of operations could be adversely affected by general conditions in the national or global economy and financial markets. For example, governmental statements, actions or policies, political unrest and global financial crises can cause extreme volatility and disruptions in the capital and credit markets. A severe or prolonged economic downturn, political unrest or additional global financial crises, including those resulting from the current COVID-19 pandemic, could result in a variety of risks to our business, including weakened demand for our products, if approved, 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, 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, further political developments and financial market conditions could adversely impact our business.

Inadequate funding for, or change of priorities or disruptions at, the FDA and other government agencies in or outside the U.S. could hinder their ability to hire, retain, or deploy key leadership and other personnel, prevent new products and services from being developed or commercialized in a timely manner or otherwise prevent those agencies from performing normal business functions on which the operation of our business may rely, which could negatively impact our business.

The ability of the FDA and other similar regulatory agencies to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to hire and retain key personnel and authorization to accept the payment of user fees, reallocation of resources to address unique or new healthcare issues (such as the COVID-19 pandemic), and statutory, regulatory, and policy changes. For example, the FDA's average

review times at the agency have fluctuated in recent years as a result of these factors in the U.S. In addition, government funding of other government agencies on which our operations may rely, including those that fund research and development activities, is subject to the political process, which is inherently fluid and unpredictable.

Disruptions at the FDA and other similar agencies may also slow the time necessary for new product applications to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years, including beginning on December 22, 2018, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA and the SEC, have had to furlough critical FDA, SEC and other government employees and stop critical activities.

If a prolonged government shutdown occurs (or if the COVID-19 pandemic continues to disrupt or prevent regular inspections, reviews, or other regulatory activities conducted by regulatory agencies) in the U.S. or other jurisdictions where we plan to conduct our clinical trials, manufacturing, or other operations, it could significantly impact the ability of the relevant agency, such as the FDA, to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

Risks Related to Our Reliance on Third Parties

Risks Related to Our Reliance on Collaboration Partners

Our technological advancements and any potential for revenue may be derived in part from our collaborations, including, for example, with Regeneron and AvenCell, and if the collaboration or co-development agreements related to a material collaboration were to be terminated or materially altered in an adverse manner, our business, financial condition, results of operations and prospects would be harmed.

We rely on strategic collaborations to advance our technology and co-develop products that we plan to co-commercialize. If our collaboration partner in a material collaboration fails to develop, obtain regulatory approval for or ultimately commercialize any product candidate from the development programs governed by the respective collaboration agreements, including, e.g., a co-development or co-commercialization agreement, or breaches or terminates our collaboration with it, our business, financial condition, results of operations and prospects could be harmed. In addition, any material alteration, in an adverse manner, of any material collaboration agreement, or dispute or litigation proceedings we may have related to a material collaboration in the future could delay development programs, create uncertainty as to ownership of or access to intellectual property rights, distract management from other business activities and generate substantial expense.

As described within the “Collaborations and Other Arrangements” section of this Form 10-K, we have entered into co-development and co-promotion (“Co/Co”) arrangements with Regeneron and AvenCell Therapeutics, Inc. (“AvenCell”). Either Regeneron or AvenCell may change its strategic focus or pursue alternative technologies in a manner that results in reduced, delayed or no revenue to us under these arrangements. For example, Regeneron has a variety of marketed products and product candidates either by itself or with other companies, including some of our competitors. In addition, the corporate objectives of our collaborators, such as Regeneron or AvenCell, may not be consistent with our best interests. Regeneron or AvenCell may change its position regarding its participation and funding of our joint activities, which may impact our ability to successfully pursue those programs.

Our existing and future collaborations will be important to our business. If we are unable to maintain any of these collaborations, or if these collaborations are not successful, our business could be adversely affected.

We have limited capabilities for product discovery and development and do not yet have any capability for sales, marketing or distribution. Accordingly, we have entered, and plan to enter, into collaborations with other companies, including our therapeutic-focused collaboration agreements with Novartis and Regeneron, that we believe can provide such capabilities. These current and future therapeutic-focused collaborations could provide us with important technologies and/or funding for our programs and technology. Our existing and future therapeutic collaborations may have a number of risks, including that collaborators:

- have significant discretion in determining the efforts and resources that they will apply;
- may not perform their obligations as expected;
- may dispute the amounts of payments owed;

- may not pursue development and commercialization of any product candidates that achieve regulatory approval or may elect not to continue or renew development or commercialization programs or license arrangements based on clinical trial results, changes in their strategic focus or available funding, or external factors, such as a strategic transaction that may divert resources or create competing priorities;
- may delay, insufficiently fund, stop, initiate new or repeat clinical trials, reformulate a product candidate for clinical testing, or abandon a product candidate;
- could develop independently, or with third parties, products that compete directly or indirectly with our products and product candidates;
- may view product candidates discovered in our collaborations as competitive with their own product candidates or products, which may cause collaborators to cease to devote resources to the development or commercialization of our product candidates;
- may dispute ownership or rights in jointly developed technologies or intellectual property;
- may fail to comply with applicable legal and regulatory requirements regarding the development, manufacture, sale, distribution or marketing of a product candidate or product;
- with sales, marketing, manufacturing and distribution rights to our product candidates may not commit sufficient resources to the product's sale, marketing, manufacturing and distribution;
- may disagree with us about material issues, including proprietary rights, contract interpretation, payment obligations or the preferred course of discovery, development, sales or marketing, which might cause delays or terminations of the research, development or commercialization of product candidates, lead to additional and burdensome responsibilities for us with respect to product candidates, or result in litigation or arbitration, any of which would be time-consuming and expensive;
- may not properly maintain or defend their or our relevant intellectual property rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation and liability;
- may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability;
- could become involved in a business combination or cessation that could cause them to deemphasize or terminate the development or commercialization of any product candidate licensed to it by us; and
- may terminate our collaborations, which could require us to raise additional capital to develop or commercialize the applicable product candidates, or lose access to the collaborator's intellectual property.

If our therapeutic collaborations do not result in the successful discovery, development and commercialization of products or if a collaborator terminates its agreement with us, we may not receive any future research funding or milestone or royalty payments under the collaboration. All of the risks relating to product discovery, development, regulatory approval and commercialization summarized and described in this report also apply to the activities of our therapeutic collaborators.

Additionally, 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.

As part of our business strategy, we may pursue acquisitions or licenses of assets or acquisitions of businesses, or disposition of assets or technologies. For example, in February 2022, we announced the acquisition of Rewrite in order to add additional capabilities to our growing platform. We also may pursue strategic alliances and joint ventures that leverage our core technology and industry experience. If we decide to collaborate with other companies to discover, develop and commercialize therapeutic products, we face significant competition in seeking appropriate collaborators because, for example, third-parties have comparable rights to the CRISPR/Cas9 system or similar genome editing technologies. In addition, we have limited experience with acquiring, disposing of or licensing assets or forming strategic alliances and joint ventures. Our ability to 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. If we are unable to reach agreements with suitable collaborators on a timely basis, on acceptable terms, or at all, we may have to curtail, delay or abandon discovery efforts or development programs, and the development, manufacture or commercialization of a product candidate, or increase our expenditures and undertake these activities at our own expense. If we elect to fund and undertake discovery, development, manufacturing or commercialization activities on our own, we may need to obtain additional expertise and additional capital, which may not be available to us on acceptable terms or at all. If we fail to enter into collaborations and do not have sufficient funds or expertise to undertake the necessary discovery, development, manufacturing and commercialization activities, we may not be able to further develop our product candidates, manufacture the product candidates, bring them to market or continue to develop our technology and our business may be materially and adversely affected. Furthermore, we may not identify or complete these transactions in a timely manner, on a cost-effective basis, or at all, and we may not realize the anticipated benefits of any acquisition, license, strategic alliance or joint venture.

Risks Related to AvenCell

We launched a new company, AvenCell, alongside Cellex Cell Professionals GmbH and Blackstone Life Sciences Advisors L.L.C. We are exposed to risks associated with the launch of the new company and may not realize the advantages we expect from it.

In July 2021, we launched AvenCell alongside Cellex Cell Professionals GmbH ("Cellex") and Blackstone Life Sciences Advisors L.L.C. ("BXLS") (the "AvenCell Launch"). AvenCell acquired GEMoaB GmbH ("GEMoaB"), a wholly-owned subsidiary of Cellex. AvenCell combines GEMoaB's clinical-stage universal CAR-T program and platforms with our allogeneic universal cell engineering platform. In connection with the AvenCell Launch, we entered into a license and collaboration agreement with AvenCell (the "AvenCell License"), under which we will collaborate to develop allogeneic universal CAR-T cell therapies, as well as a co-development and co-funding agreement (the "AvenCell Co/Co Agreement") to develop allogeneic universal CAR-T cell products targeted to a particular undisclosed immuno-oncology therapeutic target. AvenCell may not be successful in the timeframe we expect, or at all. In addition, if AvenCell fails to develop, obtain regulatory approval for or ultimately commercialize any product candidate from its development programs, including those governed by the respective AvenCell License or AvenCell Co/Co Agreement, or breaches or terminates such agreements, our business, financial condition, results of operations and prospects could be harmed.

Additionally, we, BXLS, and Cellex (and certain related entities) each have equal ownership of AvenCell and therefore share control over portions of the operations of AvenCell. Because of our minority ownership in AvenCell, we have a lesser degree of control over its business operations, thereby potentially increasing the financial, legal, operational and compliance risks Intellia may face in the future. In addition, we may be dependent on controlling shareholders or management of AvenCell who may have business interests, strategies or goals that are inconsistent with ours. These risks include the possibility that AvenCell, BXLS or Cellex has economic or business interests or goals that are or become inconsistent with our economic or business interests or goals; is in a position to take action contrary to our instructions, requests, policies or objectives; subjects us to unexpected liabilities or risks; takes actions that reduce our return on investment; acts in a manner that compromises our key licensed rights, or important IP or other rights that we own or license; or takes actions that harm our reputation or restrict our ability to run our business. Furthermore, as a result of our ownership in AvenCell, we may be required to include AvenCell's financial information in our consolidated financial results. We have not previously included a minority-owned subsidiary in our financial statements and therefore are subject to increased risk in accurately representing and incorporating AvenCell's financial statements into our own, which could result in delayed filings with the SEC and the finding of a material or significant weakness, among others. This could result in harmful consequences to our business, including an adverse reaction in the financial markets due to a loss of confidence in the reliability of our consolidated financial statements.

Risks Related to Our Reliance on Other Third Parties

We currently rely, and expect to continue to rely in part on, third parties to manufacture our clinical product supplies, and we intend to rely on third parties for at least a portion of the manufacturing process of our product candidates, if approved. Our business could be harmed if the third parties fail to provide us with sufficient quantities of product inputs or fail to do so at acceptable quality levels or prices or fail to meet legal and regulatory requirements.

We do not currently own any facility that may be used as our clinical-scale manufacturing and processing facility and must rely on outside vendors, such as CMOs, to manufacture supplies and process our product candidates. We have only recently begun to manufacture and process product candidate components on a clinical scale and may not be able to successfully complete or continue to do so. We will make changes to optimize the manufacturing process, and cannot be sure that even minor changes in the process will result in therapies that are safe, potent, pure or effective.

The facilities used by our CMOs to manufacture our product candidates must be inspected and approved by, as applicable, the FDA or other foreign regulatory agencies after we apply for approval or marketing authorization. We will be dependent on our CMO partners to properly manufacture adequate supply of our product candidates and components in a timely manner and in accordance with our specification. We also will depend on these entities for compliance with relevant legal and regulatory requirements for manufacture of our product candidates, including current good manufacturing practice ("cGMP"), and in certain cases, current good tissue practice ("cGTP"), requirements. If they cannot successfully manufacture material that conforms to our specifications and the strict relevant regulatory requirements, our CMOs will not be able to secure or maintain regulatory approval for their manufacturing facilities. In addition, we have no control over the ability of our CMOs to maintain adequate quality control, quality assurance and qualified personnel, particularly as we increase the scale of our manufactured material. If the FDA or relevant foreign regulatory authority does not approve these facilities for the manufacture of our product candidates or if it withdraws any such approval, we may need to find alternative manufacturing facilities, which would significantly impact our ability to develop, obtain regulatory approval for or market our product candidates.

If any CMO with whom we contract fails to perform its obligations, we may be forced to enter into an agreement with a different CMO, which we may not be able to do on reasonable terms, if at all. In such scenario, our clinical trials supply could be delayed significantly as we establish alternative supply sources. In some cases, the technical skills required to manufacture our product candidates may be unique to the original CMO and we may have difficulty transferring such skills to a back-up or alternate supplier, or we may be unable to transfer such skills at all. In addition, if we are required to change CMOs for any reason, we will be required to verify that the new CMO maintains facilities and procedures that comply with quality standards and with all applicable regulations. We will also need to verify, such as through a comparability study, that any new manufacturing process will produce our product candidate according to the specifications previously submitted to the FDA or another regulatory authority. The delays associated with the verification of a new CMO could negatively affect our ability to develop product candidates or commercialize our products in a timely manner. 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.

Events such as the ongoing COVID-19 pandemic could adversely impact the ability of our vendors, including CMOs, to manufacture supplies, process and deliver our product candidates, or to otherwise meet our requirements or those of the applicable regulatory agencies. For example, since the beginning of the COVID-19 pandemic, three vaccines for COVID-19 have been granted Emergency Use Authorization by the FDA, and one of those later received marketing approval. Additional vaccines may be authorized or approved in the future. The resultant demand for vaccines and potential for manufacturing facilities and materials to be commandeered under the Defense Production Act of 1950, or equivalent foreign legislation, may make it more difficult to obtain materials or manufacturing capacity for the products needed for our clinical trials, which could lead to delays in these trials. Additionally, these events could also impact the regulatory agencies' ability to inspect and approve our vendors, including CMOs, within our currently expected timeframe.

We currently rely, and expect to continue to rely on, third parties to conduct our preclinical studies and clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines or comply with legal and regulatory requirements, we may not be able to obtain regulatory approval of or commercialize any potential product candidates.

We currently depend, and expect to continue to depend, upon third parties, including independent investigators, to conduct our clinical trials under agreements with universities, medical institutions, CROs, strategic partners and others. We expect to have to negotiate budgets and contracts with CROs, trial sites and other service and goods providers, which may result in delays to our development timelines and increased costs.

We currently rely, and expect to continue to rely heavily on third parties over the course of our preclinical studies and clinical trials and, as a result, will have limited control over the clinical investigators and other service providers, and limited visibility into their day-to-day activities, including with respect to their compliance with the approved clinical protocol and other legal, regulatory and scientific standards. Nevertheless, we are responsible for ensuring that each of our studies is conducted in accordance with the applicable protocol and legal, regulatory and scientific standards, and our reliance on third parties does not relieve us of our legal responsibilities. We and these third parties are required to comply with good clinical practice ("GCP"), which are regulations and guidelines enforced by the FDA, EMA and comparable foreign regulatory authorities for product candidates in clinical development. Regulatory authorities enforce these GCP requirements through periodic inspections of trial sponsors, clinical investigators and trial sites. If we or any of these third parties fail to comply with applicable GCP requirements, the clinical data generated in our clinical trials may be deemed unreliable and the relevant regulatory authorities may require us to suspend or terminate these trials or perform additional preclinical studies or clinical trials before approving our marketing applications. We cannot be certain that, upon inspection, such regulatory authorities will determine that any of our clinical trials comply with the GCP requirements. In addition, our clinical trials must be conducted with product produced under cGMP, and in certain cases, cGTP, requirements and may require a large number of test patients.

Our or these third parties' failure to comply with these requirements or to recruit a sufficient number of patients may require us to delay, suspend, repeat or terminate clinical trials, which would delay the regulatory approval process. Moreover, our business may be implicated if any of these third parties violates applicable federal, state or local, as well as foreign, laws and regulations, such as the fraud and abuse or false claims laws and regulations or privacy and security laws. In jurisdictions such as the U.K. and EU, penalties for violations of privacy laws and other regulations can be financially significant. Further, if any of our CROs, clinical investigators or others involved in our clinical trials fail to comply with such laws and regulations, we could be held responsible for its actions or omissions and be negatively impacted. In the event of non-compliance with European Data Protection Law, we could be subject to substantial fines and other penalties, including fines of up to 10,000,000 Euros or up to 2% of our total worldwide annual turnover for certain comparatively minor offenses, or up to 20,000,000 Euros or up to 4% of our total worldwide annual turnover for more serious offenses.

Any third parties conducting our current or future clinical trials will not be our employees and, except for remedies that may be available to us under our agreements with such third parties, we cannot control whether they devote sufficient time and resources to our ongoing preclinical, clinical, and nonclinical programs. These third parties may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials or other product development activities, which could affect their performance on our behalf. If these third parties fail to meet their contractual obligations, legal requirements or expected deadlines, need to be replaced, or generate inaccurate or substandard clinical data by failing to adhere to our clinical protocols or regulatory requirements or for other reasons, our clinical trials may be extended, delayed or terminated and we may not be able to complete development of, obtain regulatory approval of or successfully commercialize our product candidates. In addition, the COVID-19 pandemic or similar events, and responsive governmental actions, could divert healthcare resources, including necessary materials and clinical trial personnel, away from our clinical trial sites to focus on pandemic concerns. As a result, our financial results and the commercial prospects for our product candidates would be harmed, our costs could increase and our ability to generate revenue could be delayed.

A resurgence of the COVID-19 pandemic (or a similar event) and measures taken in response by U.S. or other governments may have a significant impact on our CROs, clinical sites and other service and goods providers, which may affect our ability to initiate and complete preclinical studies and clinical trials.

If any of our relationships with these third-party CROs, clinical sites or other third parties terminate, we may not be able to enter into arrangements with alternative CROs, clinical sites or other third parties or to do so on commercially reasonable terms. Switching or adding additional CROs, clinical sites or other providers involves additional cost and requires management time and focus. In addition, the transition to a new CRO may result in delays, which can materially impact our ability to meet our desired clinical development timelines. Though we carefully manage our relationships with these parties, there can be no assurance that we will not encounter similar challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, financial condition and prospects.

Risks Related to Employee Matters and Managing Our Growth

Risks Related to Hiring and Retention

We expect to expand our research, development, manufacturing, clinical and regulatory capabilities, and, as a result, we may encounter difficulties in hiring capable personnel and otherwise managing our growth, which could disrupt our operations.

We expect growth in the number of our employees and the scope of our operations, including the areas of technology research, product development and manufacturing, clinical, regulatory and quality affairs and, if any product candidates receive marketing approval, sales, marketing and distribution. To manage our anticipated growth, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities, and recruit and train additional qualified personnel. Due to our limited financial resources, the significant competition for employees in our market and industry, and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to recruit and train additional qualified personnel or otherwise effectively manage the expansion of our operations, which may lead to significant costs and divert our management and business resources. Any inability to manage growth could delay or disrupt the execution of our business and operational plans.

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

We are highly dependent on the research and development, clinical, legal, financial and business development expertise of John M. Leonard, M.D., our President and Chief Executive Officer, Glenn Goddard, our Executive Vice President, Chief Financial Officer and Treasurer, David Lebwohl, our Executive Vice President and Chief Medical Officer, James Basta, our Executive Vice President, General Counsel and Corporate Secretary, Laura Sepp-Lorenzino, our Executive Vice President and Chief Scientific Officer, Eliana Clark, our Executive Vice President and Chief Technical Officer and Derek Hicks, our Executive Vice President and Chief Business Officer, as well as the other principal members of our management, scientific and clinical teams. Although we have entered into employment arrangements with our executive officers, each of them may terminate their employment with us at any time. We do not maintain “key person” insurance for any of our executives or other employees.

Recruiting and retaining qualified scientific, clinical, manufacturing and sales and marketing personnel will also be important for our success. The loss of the services of our executive officers or other key employees could impede the achievement of our research, development and commercialization objectives, and seriously harm our ability to successfully implement our business strategy. Furthermore, replacing executive officers and key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to successfully develop, gain regulatory approval of and commercialize products using our technology. Competition to hire from this limited pool is intense, and we may be unable to hire, train, retain or motivate these key personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies, universities and research institutions for similar personnel. The market for qualified personnel in the biotechnology space generally, and genome editing and gene therapy fields in particular, in and around the Cambridge, Massachusetts area is especially competitive. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategies. Our consultants and advisors 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. Further, some of the qualified personnel that we hire and recruit are not U.S. citizens, and there is uncertainty with regard to their future employment status due to the current U.S. administration’s announced intention of modifying the legal framework for non-U.S. citizens to be employed in the U.S. Finally, events such as the COVID-19 pandemic and government restrictions and directives, including immigration policy changes, could adversely impact our ability to recruit, retain or replace key employees necessary to achieve our objectives and strategic imperatives, If we are unable to continue to attract and retain high quality personnel, our ability to pursue our growth strategy will be limited.

Risks Related to Government Regulation

Risks Related to Obtaining Regulatory Approval

While the regulatory framework for approval of gene therapy including genome editing products exists, the limited specific guidance and precedent for genome-edited products makes the regulatory approval process potentially

more unpredictable and we may experience significant delays in the clinical development and regulatory approval, if any, of our product candidates.

The research, testing, manufacturing, labeling, approval, selling, import, export, marketing and distribution of drug products, including genome editing therapeutics and engineered cell therapies, are subject to extensive regulation by the FDA in the U.S. and other regulatory authorities in other jurisdictions. For example, we are not permitted to market any drug or biological product, including *in vivo* products or engineered cell therapies, until we receive regulatory approval from the relevant regulatory agency, such as the FDA in the U.S. or EMA in the EU. We expect the novel nature of our product candidates to create challenges or raise questions from regulatory agencies in obtaining regulatory approval. For example, in the U.S., the FDA has approved neither any *in vivo* gene editing-based therapeutic nor any nuclease edited cell therapy for human therapeutic use. The FDA may also require a panel of experts, referred to as an Advisory Committee, to deliberate on the adequacy of the safety and efficacy data to support approval. The Advisory Committee's opinion, although not binding, may significantly impact our ability to obtain approval of our product candidates. Moreover, while we are not aware of any specific genetic or biomarker tests for which regulatory approval would be necessary to advance any of our product candidates to clinical trials or commercialization, regulatory agencies could require the development and approval of such tests. Accordingly, the regulatory approval pathway for such product candidates may be uncertain, complex, expensive and lengthy, as well as different in each jurisdiction, and approval may not be obtained in any, some or all jurisdictions.

Other non-regulatory entities may impact the regulatory agencies and ethics committees' evaluation and approval decision regarding our product candidates. For example, in December 2018, the World Health Organization ("WHO") established the Expert Advisory Committee on Developing Global Standards for Governance and Oversight of Human Genome Editing. While the standards are expected to focus primarily on germline modifications, the guidelines could impact somatic cell editing research programs, such as ours. In March 2019, the WHO Expert Advisory Committee recommended initiating the first phase of a new global registry (the "Registry") to track research on human genome editing. Accepting this recommendation, the WHO announced plans in August 2019 for an initial phase of the registry using the International Clinical Trials Registry Platform ("ICTRP"). This phase will include worldwide registries for both somatic cell editing and germline editing clinical trials. Although registration of these clinical trials in the WHO's Registry currently is voluntary, failure to register could impact the evaluation by the regulators and ethics committees. In July 2021, the WHO Expert Advisory Committee issued recommendations and a governance framework for human genome editing research intended for the international, regional, national and institutional level. For example, the WHO recommended that: clinical trials using somatic human genome editing technologies be reviewed and approved by the appropriate research ethics committee before inclusion in its Registry; basic and preclinical gene editing research also be included in a registry; somatic or germline human genome editing research should only take place in jurisdictions with domestic policy and oversight mechanisms; and relevant patent holders help ensure equitable access to human genome editing interventions. We cannot predict the impact of the WHO's current and future recommendations, or any policies or actions that ethics committees or regulatory agencies may take in response to such recommendations, on our research, clinical and business plans and results.

Patient enrollment is a significant factor in the timing of clinical trials and is affected by many factors, including willingness of physicians to use an experimental therapy, the availability of existing treatments, the trial's geographic locations and the number of patients in each geographic location. In addition, our ability to enroll and dose patients may be delayed by the regulatory authority as well as, the IRB or another ethics committee (whether local or national). For example, as set forth in the National Institutes of Health ("NIH") Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules ("NIH Guidelines"), gene therapy clinical trials are also subject to review and oversight by an institutional biosafety committee ("IBC"), a local institutional committee that reviews and oversees research utilizing recombinant or synthetic nucleic acid molecules at that institution. Before a clinical trial can begin at any institution, that institution's IRB and its IBC assesses the safety of the research and identifies any potential risk to public health or the environment. While the NIH Guidelines are not mandatory unless the research in question is being conducted at or sponsored by institutions receiving NIH funding of recombinant or synthetic nucleic acid molecule research, many companies and other institutions not otherwise subject to the NIH guidelines voluntarily follow them. Further, a clinical trial may be suspended or terminated by us, the relevant IRBs or ethics committees of the trial's DSMB, or the FDA or other regulatory authorities due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a product candidate, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. If we experience

termination of, or delays in the completion of, any clinical trial of product candidates, the commercial prospects for our product candidates will be harmed, and our ability to generate product revenue will be impaired. In addition, any delays in completing any clinical trials will increase our costs, slow down our product development and approval process and jeopardize our ability to commence product sales and generate revenue.

We have received orphan drug designation for NTLA-2001 and may in the future seek orphan drug designation for some of our other product candidates, but we may be unable to obtain such designations or to maintain the benefits associated with orphan drug status, including market exclusivity, which may cause our revenue, if any, to be reduced.

Regulatory authorities in some jurisdictions, including the U.S. and Europe, may in response to a request from the sponsor designate products for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may grant orphan drug designation to a product intended to treat a rare disease or condition, defined as a disease or condition with a patient population of fewer than 200,000 in the U.S., or a patient population of 200,000 or more in the U.S. when there is no reasonable expectation that the cost of developing and making available the product in the U.S. will be recovered from sales in the U.S. for that product. Orphan drug designation must be requested before submitting a BLA. In the U.S., orphan drug designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers. After the FDA grants orphan drug designation, the generic identity of the product and its potential orphan use are disclosed publicly by the FDA. In the EU, a medicinal product may be designated as orphan if (1) it is intended for the diagnosis, prevention or treatment of a life-threatening or chronically debilitating condition; (2) either (a) such condition affects no more than five in 10,000 persons in the EU when the application is made, or (b) it is unlikely that the product, without the benefits derived from orphan status, would generate sufficient return in the EU to justify the necessary investment in its development; and (3) there exists no satisfactory method of diagnosis, prevention or treatment of such condition authorized for marketing in the EU, or if such a method exists, the product will be of significant benefit to those affected by the condition. Orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process.

Generally, if a product with an orphan drug designation subsequently receives the first marketing approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the approval of another marketing application for the same drug for the same indication for that time period. The applicable period is seven years in the U.S. and ten years in the EU. Orphan drug exclusivity may be lost if the FDA or the EMA determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the drug to meet the needs of patients with the rare disease or condition. In addition, the FDA can subsequently approve a marketing application for the same drug, or a product with the same active moiety, for treatment of the same disease or condition if it concludes that the later drug is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care. Similarly, the EMA may grant a marketing authorization to a similar medicinal product for the same indication as an authorized orphan product at any time if it is established that the second product, although similar, is safer, more effective or otherwise clinically superior to the authorized product. The FDA and EMA also can approve a different drug for the same orphan indication, or the same drug for a different indication, during the orphan exclusivity period.

We have received orphan drug designation for NTLA-2001 for the treatment of TTR amyloidosis. We may seek orphan drug designation for some of our other product candidates in orphan indications in which there is a medically plausible basis for the use of these product candidates. Even where we obtain orphan drug designation, exclusive marketing rights in the U.S. may be limited if we seek approval for an indication broader than the orphan designated indication and 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. In addition, although we intend to seek orphan drug designation for other product candidates, we may never receive such designations.

The FDA may reevaluate the Orphan Drug Act and its regulations and policies. We do not know if, when, or how the FDA may change the orphan drug regulations and policies in the future, and it is uncertain how any changes might affect our business. Depending on what changes the FDA may make to its orphan drug regulations and policies, our business could be adversely impacted.

Obtaining and maintaining regulatory approval of our product candidates in one jurisdiction does not mean that we will be successful in obtaining regulatory approval of product candidates in other jurisdictions.

Obtaining and maintaining regulatory approval of our product candidates in one jurisdiction does not guarantee that we will be able to obtain or maintain regulatory approval in any other jurisdiction, but a failure or delay in obtaining regulatory approval in one jurisdiction may have a negative effect on the regulatory approval process in others. For example, even if the FDA approves a product candidate, comparable regulatory authorities in foreign jurisdictions must also authorize the marketing and sale of the product candidate in those countries. Approval procedures vary among jurisdictions and can involve requirements and review periods different from those in the U.S., including additional preclinical studies or clinical trials as clinical studies conducted in one jurisdiction may not be accepted by regulatory authorities in other jurisdictions. In many jurisdictions outside the U.S., a product candidate must be approved for reimbursement before it can be sold in that jurisdiction. In some cases, the price that we are allowed to charge for our products is also subject to approval or to other legal restrictions.

Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our products in certain countries. If we fail to comply with the relevant regulatory requirements or to receive applicable marketing approvals, our target markets will be reduced and our ability to realize the full market potential of our product candidates will be harmed.

Risks Related to Ongoing Regulatory Obligations

Even if we receive regulatory approval of any product candidates or therapies, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our product candidates.

If any of our product candidates are approved, they may be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, distribution, storage, advertising, promotion, sampling, record-keeping, and submission of safety and efficacy data, and other post-market information and potential obligations (such as post-marketing studies), including both federal and state requirements in the U.S. and requirements of comparable foreign regulatory authorities. In addition, we will be subject to continued compliance with cGMP and GCP, and in certain cases, cGTP, requirements for any clinical trials that we conduct post-approval.

Manufacturers and manufacturers' facilities are required to comply with extensive FDA and comparable foreign regulatory authority requirements, as applicable, including ensuring that quality control and manufacturing procedures conform to cGMP and, in certain cases, cGTP requirements, and applicable product tracking and tracing requirements. As such, we and our CMOs will be subject to continual review and inspections to assess compliance with cGMP and adherence to commitments made in any BLA, other marketing applications, and previous responses to inspection observations. Accordingly, we and others with whom we work must continue to expend time, money, and effort in all areas of regulatory compliance, including manufacturing, production and quality control.

Any regulatory approvals that we receive for our product candidates may be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase IV clinical trials and surveillance to monitor the safety and efficacy of the product candidate. For example, the FDA or other regulatory agency may also require a REMS or similar program as a condition of approval of our product candidates, which could entail requirements for long-term patient follow-up, a medication guide, physician communication plans or additional elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. In addition, if the FDA or a comparable foreign regulatory authority approves our product candidates, we will have to comply with their respective legal or regulatory requirements including submissions of safety and other post-marketing information and reports and registration.

The FDA or other regulatory agencies may seek to impose consent decrees, withdraw approval or prohibit the export or import of a product if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with our product candidates, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or

manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical studies to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of our products, withdrawal of the product from clinical trials or the market, or voluntary or mandatory product recalls;
- manufacturing delays and supply disruptions until issues identified by regulatory inspections are remediated;
- fines, warning letters or holds on clinical trials;
- refusal by the FDA or the relevant regulatory agency to approve pending applications or supplements to approved applications filed by us or suspension or revocation of license approvals;
- product seizure or detention or refusal to permit the import or export of our product candidates; and
- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising, and promotion of products that are placed on the U.S. market, and the relevant foreign regulatory agencies do the same in their respective jurisdictions. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

The FDA's policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. If we or our collaborators are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we or our collaborators are not able to maintain regulatory compliance, we or our collaborators may lose any marketing approval that we or our collaborators may have obtained, which would adversely affect our business, prospects and ability to achieve or sustain profitability.

Our employees, independent contractors, clinical investigators, CMOs, CROs, consultants, commercial partners and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could have a material adverse effect on our business.

We are exposed to the risk of non-compliance, fraud, misconduct or other illegal activity by our employees, independent contractors, clinical investigators, CMOs, CROs, consultants, commercial partners and vendors. Misconduct by these parties could include intentional, reckless and/or negligent conduct that fails to: comply with federal and state laws and those of other applicable jurisdictions; provide true, complete and accurate information to the FDA and other similar foreign regulatory bodies; comply with manufacturing standards; comply with federal and state data privacy, security, fraud and abuse and other healthcare laws and regulations in the U.S. and similar foreign privacy or fraudulent misconduct laws; or report financial information or data accurately; or disclose unauthorized activities to us. If we obtain FDA approval of any of our product candidates and begin commercializing those products in the U.S., our potential exposure under such laws will increase significantly, and our costs associated with compliance with such laws are also likely to increase. These laws may impact, among other things, our current activities with clinical investigators and research patients, as well as proposed and future sales, marketing and education programs. In particular, the promotion, sales and marketing of healthcare products and services, as well as certain 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 may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, including promotion and marketing of off-label uses of our products, structuring and commission(s), certain customer incentive programs and other business arrangements generally. Activities subject to these laws also involve the improper use of information obtained in the course of clinical trials or creating fraudulent data in our preclinical studies or clinical trials, which could result in regulatory sanctions and cause serious harm to our reputation. It is not always possible to identify and deter misconduct by employees and other third parties, 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 governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. Additionally, we are subject to the risk that a person or government could allege such fraud or other misconduct, even if none occurred. 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, including the imposition of significant fines or other sanctions.

Legal, political and economic uncertainty surrounding the exit of the United Kingdom from the EU is a source of instability and uncertainty.

The U.K.'s withdrawal from the EU, or Brexit, became effective on January 31, 2020. EU laws, including pharmaceutical laws, continued to apply in the U.K. during a transitional period, which ended on December 31, 2020. On December 24, 2020, the U.K. and EU signed an EU-U.K. Trade and Cooperation Agreement ("TCA"), which became provisionally applicable on January 1, 2021 and has been formally applicable since May 1, 2021. Although this agreement is comprehensive and provides some details on how aspects of the U.K. and EU's relationship regarding medicinal products will operate, particularly in relation to GMP, it does not cover many areas of regulation pertinent to the biopharmaceutical industry, so many complexities remain. Many of the regulations that now apply in the U.K. following the transition period (including financial laws and regulations, tax, intellectual property rights, data protection laws, supply chain logistics, environmental, health and safety laws and regulations, medicine approval and regulations, immigration laws and employment laws), will likely be amended in future as the U.K. determines its new approach, which may result in significant divergence from EU regulations. This lack of clarity on future U.K. laws and regulations and their interaction with the EU laws and regulations increases our regulatory burden of operating in and doing business with both the U.K. and the EU.

The long-term effects of Brexit will depend in part on how the EU-U.K. TCA, and any future agreements signed by the U.K. and the EU, take effect in practice. Such a withdrawal from the EU is unprecedented, and it is unclear how the restrictions on the U.K.'s access to the European single market for goods, capital, services and labor within the EU and the wider commercial, legal and regulatory environment, could impact our current and future operations and clinical activities in the U.K.

We may also face new regulatory costs and challenges that could have an adverse effect on our operations as a result of Brexit. Since the regulatory framework in the U.K. covering quality, safety and efficacy of medicinal products, clinical trials, marketing authorization, commercial sales and distribution of medicinal products is derived from EU directives and regulations, Brexit could materially impact the future regulatory regime with respect to the approval of any of our future product candidates in the U.K., because U.K. legislation has the potential to diverge from EU legislation. For instance, Great Britain is no longer covered by the centralized procedure for obtaining EEA-wide marketing authorizations from the EMA for medicinal products and a separate process for authorization of drug products is required in the U.K. for Northern Ireland only under the Northern Ireland Protocol between the EU and the U.K., where the EU regulatory framework will continue to apply in Northern Ireland and centralized EU authorizations will continue to be recognized in Northern Ireland only. For a period of two years from January 1, 2021, the U.K.'s MHRA may rely on a decision taken by the European Commission on the approval of a new marketing authorization in the centralized procedure, in order to more quickly grant a new U.K. marketing authorization, however a separate application will still be required. Any delay in obtaining, or an inability to obtain, any regulatory approvals, as a result of Brexit or otherwise, would delay or prevent us from commercializing our current or future product candidates in the U.K. and could restrict our ability to generate revenue from that market.

Until there is greater understanding on how the terms of the TCA will take effect in the long-term, and until the terms of other potential agreements that the U.K. may eventually enter into with the EU are known, it is not possible to determine the extent of the impact that the U.K.'s departure from the EU and/or any related matters may have on us; however any of these effects of Brexit, and others we cannot anticipate, could negatively impact our business and results of operations in the U.K. Likewise, similar actions taken by European and other countries in which we operate could have a similar or even more profound impact.

The uncertainty concerning the U.K.'s legal, political and economic relationship with the EU following Brexit may also be a source of instability in the international markets, create significant currency fluctuations, and/or otherwise adversely affect trading agreements or similar cross-border co-operation arrangements (whether economic, tax, fiscal, legal, regulatory or otherwise).

Failure to comply with health and data protection laws and regulations could lead to government enforcement actions (which could include civil or criminal penalties), private litigation, and/or adverse publicity and could negatively affect our operating results and business.

We and any potential collaborators, clinical investigators, CMOs, CROs, consultants or vendors may be subject to federal, state, and foreign data protection laws and regulations (i.e., laws and regulations that address privacy and data security). In the U.S., numerous federal and state laws and regulations, including federal health information privacy laws, state data breach notification laws, state health information privacy laws, and federal and state consumer protection laws (e.g., Section 5 of the Federal Trade Commission Act), that govern the collection, use, disclosure and protection of health-related and other personal information could apply to our operations or the operations of our collaborators. In addition, we may obtain health information from third parties (including research institutions from which we obtain clinical trial data) that are subject to privacy and security requirements under HIPAA, as amended by HITECH, or by comparable laws in other jurisdictions. Depending on the facts and circumstances, we could be subject to civil, criminal, and administrative penalties if we knowingly obtain, use, or disclose individually identifiable health information maintained by a covered entity in a manner that is not authorized or permitted by laws or regulations.

Compliance with U.S., both state and national, and international data protection laws and regulations could require us to take on more onerous obligations in our contracts, restrict our ability to collect, use and disclose data, or in some cases, impact our ability to operate in certain jurisdictions. Failure to comply with these laws and regulations could result in government enforcement actions (which could include civil, criminal and administrative penalties), private litigation, and/or adverse publicity and could negatively affect our operating results and business. Moreover, clinical trial subjects, employees and other individuals about whom we or our potential collaborators obtain personal information, as well as the providers who share this information with us, may limit our ability to collect, use and disclose the information. Claims that we have violated individuals' privacy rights, failed to comply with data protection laws, or breached our contractual obligations, even if we are not found liable, could be expensive and time-consuming to defend and could result in adverse publicity that could harm our business.

Given that we are conducting clinical trials in the U.K. and EU, and our current and future requests for approval to conduct clinical trials are in the U.K., EU and other jurisdictions outside the U.S., we are and may be subject to additional privacy laws. For example, European Data Protection Law applies extraterritorially, and we are subject to the European Data Protection Law because of data processing activities that involve the personal data of individuals in the EU or the U.K. in connection with EU or U.K. clinical trials. As discussed above, the GDPR regulates the processing of personal data of data subjects in the EU or the U.K. by imposing a broad range of strict requirements on companies subject to the GDPR, including requirements relating to having legal bases for processing personal data and transferring such information outside the EU or the U.K., including to the U.S., providing robust disclosures to individuals regarding the processing of their personal data, keeping personal data secure, having data processing agreements with third parties who process personal data, responding to individuals' requests to exercise their rights in respect of their personal data, reporting security breaches involving personal data to the competent national data protection authority and affected individuals, appointing data protection officers, conducting data protection impact assessments, and record-keeping. In the event of non-compliance with the GDPR, we could be subject to substantial fines and other penalties, including fines of up to 10,000,000 Euros or up to 2% of our total worldwide annual turnover for certain comparatively minor offenses, or up to 20,000,000 Euros or up to 4% of our total worldwide annual turnover for more serious offenses. We face uncertainty as to the exact interpretation of the new requirements and we may be unsuccessful in implementing all measures required by data protection authorities or courts in interpretation of the law.

In addition, as it relates to processing and transfer of health and genetic data, the GDPR specifically allows national laws to impose additional and more specific requirements or restrictions, and European laws have historically differed quite substantially in this field, leading to additional uncertainty.

If we are investigated by a European data protection authority, we may face fines and other penalties. Any such investigation or charges by European data protection authorities could have a negative effect on our existing business and on our ability to attract and retain new clients or pharmaceutical partners. We may also experience hesitancy, reluctance, or refusal by European or multi-national clients or pharmaceutical partners to continue to use our products and solutions due to the potential risk exposure as a result of the current (and, in particular, future) data protection

obligations imposed on them by certain data protection authorities in interpretation of current law, including the GDPR. Such clients or pharmaceutical partners may also view any alternative approaches to compliance as being too costly, too burdensome, too legally uncertain, or otherwise objectionable and therefore decide not to do business with us. Any of the foregoing could materially harm our business, prospects, financial condition and results of operations.

If we fail to comply with environmental, health and safety, and laboratory animal welfare laws and regulations, we could become subject to fines or penalties or incur costs that could harm our business.

We are subject to numerous federal, state and local environmental, health and safety, and laboratory animal welfare laws and regulations. These legal requirements include those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes as well as those which regulate the care and use of animals in research. Our operations will involve research using research animals and the use of hazardous and flammable materials, including chemicals and biological materials. Our operations also may produce hazardous waste products. We generally anticipate contracting with third parties for the disposal of these materials and wastes. We will not be able to eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from any use by us of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties for failure to comply with such laws and regulations.

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 maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological, hazardous or radioactive materials.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety, and laboratory animal welfare laws and regulations. These current or future laws and regulations may impair our research, development or production efforts. Our failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

Failure to comply with labor and employment laws and regulations could subject us to legal liability and costs, including fines or penalties, as well as reputational damage that could harm our business.

We are subject to numerous federal, state and local laws and regulations relating to the recruiting, hiring, compensation and treatment of employees and contractors. These laws and regulations cover financial compensation (including wage and hour standards), benefits (including insurance and 401K plans), discrimination, workplace safety and health, benefits, and workers' compensation.

The Commonwealth of Massachusetts also has laws that expand on federal laws or create additional rights for employees or obligations for employers. For example, on July 1, 2018, the Massachusetts Equal Pay Act went into effect, which added protections employers must comply with regarding pay equity for "comparable work". There is currently uncertainty regarding the exact scope of these new legal limits and such uncertainty may remain for the foreseeable future. We may face increased employment and legal costs to ensure we are complying with this law. In addition, on October 1, 2018, a new Massachusetts non-compete law went into effect, placing additional restrictions on employers seeking to enter into non-competition agreements with employees. This law may negatively impact our ability to prevent employees from working with direct or indirect competitors in the future and may affect our ability to retain key talent in a competitive market.

Our failure to comply with these and other related laws could expose us to civil and, in some cases, criminal liability, including fines and penalties. Further, government or employee claims that we have violated any of these laws, even if ultimately disproven, could result in increased expense and management distraction, as well as have an adverse reputational impact on us.

Risks Related to Intellectual Property

Risks Related to Third Party and Licensed Intellectual Property

Third-party claims of intellectual property infringement against us, our licensors or our collaborators may prevent or delay our product discovery and development efforts.

Our commercial success depends in part on our avoiding infringement of the valid patents and proprietary rights of third parties.

Numerous U.S. and foreign issued patents and pending patent applications owned by third parties exist in the fields in which we are developing our product candidates and in areas potentially related to components and methods we use or may use in our research and development efforts. As industry, government, academia and other biotechnology and pharmaceutical research expands and more patents are issued, the risk increases that our product candidates may give rise to claims of infringement of the patent rights of others. Our development candidates are complex and may include multiple components such as Cas9 protein or messenger RNA encoding Cas9 protein, guide RNAs ("gRNA"), targeting molecules, or formulation components such as lipids. We cannot guarantee that any of these components of our technology, processes, future product candidates or the use of such product candidates do not infringe third-party patents. It is also possible that we have failed to identify relevant third-party patents or applications. Because patent rights are granted jurisdiction-by-jurisdiction, our freedom to practice certain technologies, including our ability to research, develop and commercialize our product candidates, may differ by country.

Third parties may assert that we infringe their patents or that we are otherwise employing their proprietary technology without authorization, and may sue us. There may be third-party patents of which we are currently unaware with claims to compositions, formulations, methods of manufacture or methods of use or treatment that cover product candidates we discover and develop. Because patent applications can take many years to issue, there may be currently pending patent applications that may later result in issued patents that our product candidates may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies or the manufacture, use or sale of our product candidates infringes upon these patents. If any such third-party patents were held by a court of competent jurisdiction to cover our technologies or product candidates, the holders of any such patents may be able to block our ability to commercialize the applicable product candidate unless we obtain a license under the applicable patents, or until such patents expire or are finally determined to be held invalid or unenforceable. Such a license may not be available 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. We could be forced, including by court order, to cease commercializing, manufacturing or importing the infringing technology or product. In addition, we could be found liable for 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 one or more of our product candidates, force us to redesign our infringing products or force us to cease some or all of our business operations, any of which could materially harm our business and could prevent us from further developing and commercializing our proposed future product candidates thereby causing us significant harm. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business. If we are unable to obtain a necessary license to a third-party patent on commercially reasonable terms, our ability to commercialize our product candidates may be impaired or delayed, which could in turn significantly harm our business.

Third parties may seek to claim intellectual property rights that encompass or overlap with intellectual property that we own or license from them or others. Legal proceedings may be initiated to determine the scope and ownership of these rights, and could result in our loss of rights, including injunctions or other equitable relief that could effectively block our ability to further develop and commercialize our product candidates. For example, through the Caribou License, we sublicense the rights of the Regents of the University of California and the University of Vienna (collectively, "UC/Vienna") to a worldwide patent portfolio that covers methods of use and compositions relating to engineered CRISPR/Cas9 systems for, among other things, cleaving or editing DNA and altering gene product expression in various organisms, including eukaryotic cells. We sublicense the UC/Vienna rights to this portfolio for human therapeutic, prophylactic and palliative uses, including companion diagnostics, except for anti-fungal and anti-microbial uses. This patent portfolio to-date includes, for example, multiple granted, allowed, and/or allowable patent applications in the U.S., as well as granted patents from the European Patent Office, the United Kingdom's Intellectual Property Office, the German Patent and Trade Mark Office, Australia's Intellectual Property agency and China's

Intellectual Property Office, among others. Because UC/Vienna co-own this portfolio with Dr. Emmanuelle Charpentier (from whom we do not have sublicense rights), we refer to this co-owned worldwide patent portfolio as the UC/Vienna/Charpentier patent family. UC/Vienna could challenge Caribou's rights under their license agreement, including Caribou's right to sublicense its rights to others, such as Intellia, and on what terms such a sublicense would be granted, each of which could adversely impact our rights under our license agreement with Caribou.

Similarly, on October 17, 2018, we initiated an arbitration proceeding with JAMS against Caribou asserting that Caribou violated the terms and conditions of the Caribou License, as well as other contractual and legal rights, by using and seeking to license to third parties technology covered by two patent families (described in, for instance, PCT No. PCT/US2016/015145 and PCT No. PCT/US2016/064860, and related patents and applications) relating to specific structural or chemical modifications of gRNAs, that were purportedly invented or controlled by Caribou, in our exclusive human therapeutic field. Caribou asserted that the two families of IP are outside our exclusive license rights under the Caribou License.

On September 26, 2019, we announced that the arbitration panel issued an interim award concluding that both the structural and chemical gRNAs modification technologies were exclusively licensed to us by Caribou under the Caribou License. After concluding that the chemical modification technology was within the scope of our exclusive license from Caribou, the arbitration panel nevertheless noted that its decision could delay or otherwise adversely impact the development of these modified gRNAs as human therapeutics. It also noted that we currently are not using these modified gRNAs in any of our active programs. Thus, solely with respect to the particular modified gRNAs, the arbitration panel stated that it will declare that Caribou has an equitable "leaseback," which it described as exclusive, perpetual and worldwide.

On June 16, 2021, we executed a Leaseback agreement with Caribou, which settled the arbitration with Caribou. Under the Leaseback agreement, in exchange for an upfront payment, potential future regulatory and sales milestones, and single-digit royalties payable by Caribou to us, we have agreed to leaseback or sublicense certain CRISPR/Cas9 intellectual property, including our chemical gRNA modification technology and foundational CRISPR/Cas9 intellectual property, to Caribou so that it can develop and commercialize CB-010. Caribou also will be responsible for any payments required in respect of our in-licensed intellectual property, such as the foundational CRISPR/Cas9 intellectual property. Under the Leaseback agreement, Caribou will be able to compete with us (or our licensees) in the development of CAR-T cell human therapeutics directed at CD19, which could adversely affect our business.

Third parties could assert that UC/Vienna/Charpentier do not have rights to the CRISPR/Cas9 technology, including inventorship and ownership rights to currently issued or allowable patents, or that any rights owned by UC/Vienna/Charpentier are limited. If such third parties were found to have rights to the CRISPR/Cas9 technology, we could be required to obtain rights from such parties or cease our development and commercialization efforts. For example, under our sublicense from Caribou, we have rights to patent applications owned by UC/Vienna Charpentier covering certain aspects of CRISPR/Cas9 systems to edit genes in eukaryotic cells, including human cells (collectively, the "UC/Vienna/Charpentier eukaryotic patent family"). The Broad Institute, Massachusetts Institute of Technology, the President and Fellows of Harvard College and the Rockefeller University (collectively, the "Broad Institute") co-own patents and patent applications that also claim CRISPR/Cas9 systems to edit genes in eukaryotic cells (collectively, the "Broad Institute patent family"). Because the respective owners of various UC/Vienna/Charpentier patent applications and the Broad Institute patent family both allege owning intellectual property claiming overlapping aspects of CRISPR/Cas9 systems and methods to edit genes in eukaryotic cells, including human cells, our ability to market and sell CRISPR/Cas9-based human therapeutics may be adversely impacted depending on the scope and actual ownership over the inventions claimed in the competing patent portfolios. On June 25, 2019, the Patent Trial and Appeal Board ("PTAB") of the U.S. Patent and Trademark Office ("USPTO") declared an interference between the UC/Vienna/Charpentier eukaryotic patent family and the Broad Institute patent family to determine which research group first invented the use of the CRISPR/Cas9 technology in eukaryotic cells and, therefore, is entitled to the patents covering the invention. On August 26, 2019, the PTAB redeclared the interference to include additional UC/Vienna/Charpentier patent applications covering the invention that had also been found allowable by the USPTO. On September 10, 2020, the PTAB issued an order that, among other matters, advanced the proceeding to the priority phase, where both UC/Vienna/Charpentier, which will have the burden of proof, and the Broad Institute will present their respective evidence seeking to prove that they, invented first. As of December 31, 2021, the interference involves 14 allowable patent applications from the UC/Vienna/Charpentier eukaryotic patent family and 13 patents and one patent application from the Broad Institute patent family.

On December 14, 2020, the PTAB declared an additional interference between the same 14 allowable patent applications in the UC/Vienna/Charpentier portfolio, and one patent application owned by ToolGen, Inc. And, on June 21, 2021, the PTAB declared another interference between the same UC/Vienna/Charpentier 14 allowable patent applications and one patent application owned by Sigma-Aldrich Co. LLC (a subsidiary of Merck KGaA). Because the patent applications involved in these interferences also purport to cover the use of CRISPR/Cas9 for gene editing in eukaryotic cells, the PTAB seeks to determine between the various groups which one invented first and is entitled to the resulting patents. These two latter interferences are still in their motion phases where the PTAB may consider, among other matters, which party will have the burden of proof in their respective priority phases. If either the Broad, ToolGen or Sigma-Aldrich were to succeed in their respective interference, the prevailing party or parties could seek to assert its issued patents against us based on our CRISPR/Cas9-based activities, including commercialization.

In addition, other third parties, such as Vilnius University, and Harvard University, filed patent applications claiming CRISPR/Cas9-related inventions around or within a year after the UC/Vienna/Charpentier application was filed and allege (or may allege) that they invented one or more of the inventions claimed by UC/Vienna/Charpentier before UC/Vienna/Charpentier. If the USPTO deems the scope of the claims of one or more of these parties to sufficiently overlap with the allowable claims from the UC/Vienna/Charpentier application, the USPTO could declare other interference proceedings to determine the actual inventor of such claims. If these third-parties were to prevail in their inventorship claims or obtain patent claims that cover our product candidates or related activities through these various legal proceedings, then we could be prevented from utilizing the intellectual property we have licensed from Caribou, as well as from developing and commercializing all or some of our products candidates unless we can obtain rights to the third-parties' intellectual property, or avoid or invalidate it.

Further, these third-parties, and others, have also filed patent applications and obtained patents covering aspects of the CRISPR/Cas9 technology in other key jurisdictions, including the EU members, the U.K., China and Japan. If these patents are deemed valid and cover our product candidates or related activities, we could be prevented from developing and commercializing all or some of our product candidates unless we license the relevant intellectual property or avoid it.

Defense of any potential infringement claims, regardless of their merit, would involve substantial litigation expense, would be a substantial diversion of management and other employee resources from our business and may impact our reputation. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties or redesign our infringing products, which may be impossible or require substantial time and monetary expenditure. In that event, we could be unable to further develop and commercialize our product candidates, which could harm our business significantly.

We depend on intellectual property licensed from third parties and termination or modification of any of these licenses could result in the loss of significant rights, which would harm our business.

We are dependent on patents, know-how and proprietary technology, both our own and licensed from others, including Caribou, Novartis, Regeneron and Ospedale San Raffaele ("OSR"). Any termination of these licenses, loss by our licensors of the rights they receive from others, diminution of our rights or those of our licensors, or a finding that such intellectual property lacks legal effect, could result in the loss of significant rights and could harm our ability to commercialize any product candidates. For example, UC/Vienna could challenge Caribou's rights under their agreement, including Caribou's right to sublicense its rights to others, such as Intellia, and on what terms such a sublicense would be granted, each of which could adversely impact our rights under our agreement with Caribou. Similarly, Caribou or other licensors, or other third parties from which we derive rights, could challenge the scope of our licensed rights or fields under our license agreement, which could adversely impact our exclusive rights to use CRISPR/Cas9 technology in our human therapeutics field.

Disputes have and may arise between us and our licensors, our licensors and their licensors, or us and third parties that co-own intellectual property with our licensors or their licensors, regarding intellectual property subject to a license agreement, including those relating to:

- the scope of rights, if any, granted under the license agreement and other interpretation-related issues;

- whether and the extent to which our technology, products and processes infringe on, or derive from, intellectual property of the licensor that is not subject to the license agreement;
- whether our licensor or its licensor had the right to grant the license agreement, or whether they are compliant with their contractual obligations to their respective licensor(s);
- whether third parties are entitled to compensation or equitable relief, such as an injunction, for our use of the intellectual property without their authorization;
- our right to sublicense patent and other rights to third parties, including those under collaborative development relationships;
- whether we are complying with our obligations with respect to the use of the licensed technology in relation to our development and commercialization of product candidates;
- our involvement in the prosecution, defense and enforcement of the licensed patents and our licensors' overall patent strategy;
- the allocation of ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and by us and our partners; and
- the amounts of royalties, milestones or other payments due under the license agreement.

If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, or are insufficient to provide us the necessary rights to use the intellectual property, we may be unable to successfully develop and commercialize the affected product candidates. If we or any such licensors fail to adequately protect this intellectual property, our ability to commercialize our products could suffer.

We depend, in part, on our licensors to file, prosecute, maintain, defend and enforce patents and patent applications that are material to our business.

Patents relating to our product candidates are controlled by certain of our licensors or their respective licensors. Each of our licensors or their licensors generally has rights to file, prosecute, maintain and defend the patents we have licensed from such licensor. If these licensors or any future licensees and in some cases, co-owners from which we do not yet have licenses, having rights to file, prosecute, maintain, and defend our patent rights fail to adequately conduct these activities for patents or patent applications covering any of our product candidates, our ability to develop and commercialize those product candidates may be adversely affected and we may not be able to prevent competitors from making, using or selling competing products. We cannot be certain that such activities by our licensors or their respective licensors have been or will be conducted in compliance with applicable laws and regulations or in our best interests, or will result in valid and enforceable patents or other intellectual property rights. Pursuant to the terms of the license agreements with our licensors, the licensors may have the right to control enforcement of our licensed patents or defense of any claims asserting the invalidity of these patents and, even if we are permitted to pursue such enforcement or defense, we cannot ensure the cooperation of our licensors or, in some cases, other necessary parties, such as the co-owners of the intellectual property from which we have not yet obtained a license. We cannot be certain that our licensors or their licensors, and in some cases, their respective co-owners, will allocate sufficient resources or prioritize their or our enforcement of such patents or defense of such claims to protect our interests in the licensed patents. For example, with respect to our sublicensed rights from Caribou to UC/Vienna/Charpentier intellectual property, UC retained the right to control the prosecution, enforcement and defense of this intellectual property in its license agreement with Caribou and, pursuant to an Invention Management Agreement, shares these responsibilities with CRISPR Therapeutics AG and, under certain circumstances, ERS Genomics, Ltd., as the designated managers of the intellectual property. For these reasons, UC may be unable or unwilling to prosecute certain patent claims that would be best for our product candidates, or enforce its patent rights against infringers of the UC/Vienna/Charpentier patent family.

Even if we are not a party to legal actions or other disputes involving our licensed intellectual property, an adverse outcome could harm our business because it might prevent us from continuing to license intellectual property that we may need to operate our business. In addition, even when we have the right to control patent prosecution of licensed patents and patent applications, enforcement of licensed patents, or defense of claims asserting the invalidity of those

patents, we may still be adversely affected or prejudiced by actions or inactions of our licensors and their counsel that took place prior to or after our assuming control.

We may not be successful in obtaining or maintaining necessary rights to product components and processes or other technology for our product development pipeline.

The growth of our business will likely depend in part on our ability to acquire or in-license additional proprietary rights. For example, our programs may involve additional product candidates, delivery systems or technologies that may require the use of additional proprietary rights held by third parties, including competitors. Our ultimate product candidates may also require specific modifications or formulations to work effectively and efficiently. These modifications or formulations may be covered by intellectual property rights held by others, including competitors. We may be unable to acquire or in-license any relevant third-party intellectual property rights that we identify as necessary or important to our business operations.

Additionally, we sometimes collaborate with academic institutions to accelerate our preclinical research or development under written agreements with these institutions. Typically, these institutions provide us with an option to negotiate a license to any of the institution's rights in technology resulting from the collaboration. Regardless of such option, we may be unable to negotiate a license within the specified timeframe or under terms that are acceptable to us. If we are unable to do so, the institution may offer the intellectual property rights to other parties, potentially blocking our ability to pursue our program.

The licensing and acquisition of third-party intellectual property rights is a competitive practice and companies that may be more established, or have greater resources than we do, may also be pursuing strategies to license or acquire third-party intellectual property rights that we may consider necessary or attractive in order to commercialize our product candidates. More established companies may have a competitive advantage over us due to their larger size and cash resources or greater clinical development and commercialization capabilities. There can be no assurance that we will be able to successfully complete such negotiations and ultimately acquire the rights to the intellectual property surrounding the additional product candidates that we may seek to acquire.

If we are unable to successfully obtain rights to valid third-party intellectual property or to maintain the existing intellectual property rights we have, we may have to abandon development of such program and our business and financial condition could suffer.

We may be required to pay certain milestones and royalties under our license agreements with third-party licensors.

Under our current and future license agreements, we may be required to pay milestones and royalties based on our revenues, including sales revenues of our products, utilizing the technologies licensed or sublicensed from third parties, including Caribou, OSR and Rewrite, and these milestones and royalty payments could adversely affect our ability to research, develop and obtain approval of product candidates, as well as the overall profitability for us of any products that we may seek to commercialize. In order to maintain our license rights under these license agreements, we will need to meet certain specified milestones, subject to certain cure provisions, in the development of our product candidates. Further, our licensors (or their licensors) or licensees may dispute the terms, including amounts, that we are required to pay under the respective license agreements. If these claims were to result in a material increase in the amounts that we are required to pay to our licensors, or in a claim of breach of the license, our ability to research, develop and obtain approval of product candidates, or to commercialize products, could be significantly impaired.

In addition, these agreements contain diligence milestones and we may not be successful in meeting all of the milestones in the future on a timely basis or at all. We will need to outsource and rely on third parties for many aspects of the clinical development, sales and marketing of our products covered under our license agreements. Delay or failure by these third parties could adversely affect the continuation of our license agreements with their third-party licensors.

Risks Related to Patents and Trademarks

We could be unsuccessful in obtaining or maintaining adequate patent protection for one or more of our products or product candidates, or asserting and defending our intellectual property rights that protect our products and technologies.

We anticipate that we will file additional patent applications both in the U.S. and in other countries, as appropriate. However, we cannot predict:

- if and when any patents will issue;
- the scope, degree and range of protection any issued patents will afford us against competitors, including whether third parties will find ways to invalidate or otherwise circumvent our patents;
- whether others will apply for or obtain patents claiming aspects similar to those covered by our patents and patent applications;
- whether certain governments will appropriate our intellectual property rights and allow competitors to use them; or
- whether we will need to initiate litigation or administrative proceedings to assert or defend our patent rights, which may be costly whether we win or lose.

Composition of matter patents for biological and pharmaceutical products are generally considered to be the strongest form of intellectual property protection for those types of products, as such patents provide protection without regard to any method of use. We cannot be certain, however, that any claims in our pending or future patent applications covering the composition of matter of our product candidates will be considered patentable by the USPTO or by patent offices in foreign countries, or that the claims in any of our ultimately issued patents will be considered valid and enforceable by courts in the U.S. or foreign countries. Method of use patents protect the use of a product for the specified method, for example a method of treating a certain indication using a product. This type of patent does not prevent a competitor from making and marketing a product that is identical to our product for an indication that is outside the scope of the patented method. Moreover, even if competitors do not actively promote their product for our targeted indications, physicians may prescribe these products “off-label” for those uses that are covered by our method of use patents. Although off-label prescriptions may infringe or contribute to the infringement of method of use patents, the practice is common and such infringement is difficult to prevent or prosecute.

The strength of patents in the biotechnology and pharmaceutical field can be uncertain, and evaluating the scope of such patents involves complex legal and scientific analyses. The patent applications that we own or in-license may fail to result in issued patents with claims that cover any product candidates or uses thereof in the U.S. or in other foreign countries.

Further, the patent prosecution process is expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost, in a timely manner, or in all jurisdictions. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. Moreover, in some circumstances, we do not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology that we license from third parties. We may also require the cooperation of our licensors or other necessary parties, such as the co-owners of the intellectual property from which we have not yet obtained a license, in order to enforce the licensed patent rights, and such cooperation may not be provided. Therefore, these patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business.

The laws of foreign countries may not protect our rights to the same extent as the laws of the U.S. and we may fail to seek or obtain patent protection in all major markets. For example, European patent law restricts the patentability of methods of treatment of the human body more than U.S. law does. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the U.S. and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we will be unable to know with certainty whether we were the first to make any inventions claimed in any patents or patent applications, or that we were the first to file for patent protection of such inventions, nor can we know whether those from whom we license patents were the first to make the inventions claimed or were the first to file.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our owned and licensed patents may be challenged in the courts or patent offices in the U.S. and abroad. There is a substantial amount of litigation as well as administrative proceedings for challenging patents, including interference, derivation, reexamination, and other post-grant proceedings before the USPTO and oppositions and other comparable proceedings in foreign jurisdictions, involving patents and other intellectual property rights in the biotechnology and pharmaceutical industries, and we expect this to be true for the CRISPR/Cas9 space as well. Indeed, a number of third parties have filed oppositions challenging the validity, and seeking the revocation, of several CRISPR/Cas9 genome editing patents granted to UC/Vienna/Charpentier by the European Patent Office ("EPO"). To date, UC/Vienna/Charpentier have successfully defended before the EPO's opposition division the validity of their first European patent, which covers compositions comprising Cas9 and single gRNA molecules, as well as methods of editing DNA *in vitro* or *ex vivo* using Cas9 and single gRNAs. The opponents to this patent have appealed the decision of the EPO's opposition division. If UC/Vienna/Charpentier fail in defending the validity of its first European patent, we may lose valuable intellectual property rights, such as the right to exclude others from using such intellectual property. Such an outcome could have a material adverse effect on our business in Europe. Similarly, third parties are opposing the other patents issued by the EPO to UC/Vienna/Charpentier, including their second European patent that was recently revoked by the EPO's opposition division, a decision that UC/Vienna/Charpentier have appealed. Although the claims of these other patents are more limited in scope compared to the first European patent, the inability to defend their respective validity could result in loss of valuable rights. In addition, since the passage of the America Invents Act in 2013, U.S. law also provides for other procedures to challenge patents, including *inter partes* reviews and post-grant reviews, that add uncertainty to the possibility of challenge to our developed or licensed patents and patent applications in the future. Furthermore, for U.S. applications in which all claims are entitled to a priority date before March 16, 2013, an interference proceeding can be provoked by a third-party or instituted by the USPTO to determine who was the first to invent any of the subject matter covered by the patent claims of our applications. See the above risk factor titled "*Third-party claims of intellectual property infringement against us, our licensors or our collaborators may prevent or delay our product discovery and development efforts*."

Such challenges may result in loss of exclusivity or freedom to operate or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to practice the invention or 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. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property or prevent others from designing their products to avoid being covered by our claims. If the breadth or strength of protection provided by the patent applications we hold is threatened, this could dissuade companies from collaborating with us to develop, and could threaten our ability to commercialize, product candidates. Further, if we encounter delays in our clinical trials, the period of time during which we could market product candidates under patent protection would be reduced. Because patent applications in the U.S. and most other countries are confidential for a period of time after filing, we cannot be certain that we were the first to file any patent application related to our product candidates.

Our pending and future patent applications or the patent applications that we obtain rights to through in-licensing arrangements may not result in patents being issued which protect our technology or future product candidates, in whole or in part, or which effectively prevent others from commercializing competitive technologies and products. Changes in either the patent laws or interpretation of the patent laws in the U.S. and other countries may diminish the value of our patents or narrow the scope of our patent protection.

Litigation or other administrative proceedings challenging our intellectual property, including interferences, derivation, reexamination, *inter partes* reviews and post-grant reviews, may result in a decision adverse to our interests and, even if we are successful, may result in substantial costs and distract our management and other employees. Furthermore, there could be public announcement of the results of hearings, motions or other interim proceedings or developments in any proceeding challenging the issuance, scope, validity and enforceability of our developed or licensed intellectual property. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock.

Any of these potential negative developments could impact the scope, validity, enforceability or commercial value of our patent rights and, as a result, have material adverse effect on our business, financial condition, results of operations or prospects.

We may be subject to claims challenging the inventorship of our patents and other intellectual property.

We may in the future be subject to claims that former employees, collaborators or other third parties have an interest in our patents or other intellectual property as an inventor or co-inventor or other claims challenging the inventorship of our patents or ownership of our intellectual property (including patents and intellectual property that we in-license). For example, the UC/Vienna/Charpentier patent family that is covered by our license agreement with Caribou is co-owned by UC/Vienna and Dr. Charpentier, and our sublicense rights are derived from the first two co-owners and not from Dr. Charpentier. Therefore, our rights to these patents are not exclusive and third parties, including competitors, may have access to intellectual property that is important to our business. In addition, we may have inventorship disputes arise from conflicting obligations of collaborators, consultants or others who are involved in developing our technology and product candidates. Litigation or other legal proceedings may be necessary to defend against these and other claims challenging inventorship. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

We have limited foreign intellectual property rights and may not be able to protect our intellectual property rights throughout the world.

We have limited intellectual property rights outside the U.S. Filing, prosecuting, maintaining and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the U.S. can have a different scope and strength than do those in the U.S. In addition, the laws of some foreign countries, such as China, Brazil, Russia, India and South Africa, do not protect intellectual property rights to the same extent as federal and state laws in the U.S. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the U.S., or from selling or importing products made using our inventions in and into the U.S. or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement rights are not as strong as those in the U.S. These products may compete with our products and our patents or other intellectual property rights may not be effective or adequate to prevent them from competing. In addition, in jurisdictions outside the U.S., a license may not be enforceable unless all the owners of the intellectual property agree or consent to the license. Further, patients may choose to travel to countries in which we do not have intellectual property rights or which do not enforce these rights to obtain the products or treatment from competitors in such countries.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, such as China, Brazil, Russia, India and South Africa, do not favor the enforcement of patents, trade secrets and other intellectual property, particularly those relating to biopharmaceutical products, which could make it difficult in those jurisdictions for us to stop the infringement or misappropriation of our patents or other intellectual property rights, or the marketing of competing products in violation of our proprietary rights. Proceedings to enforce our patent and other intellectual property rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business. Furthermore, such proceedings could put our patents at risk of being invalidated, held unenforceable, or interpreted narrowly, could put our patent applications at risk of not issuing, and could provoke third parties to assert claims of infringement or misappropriation 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. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

We may be involved in lawsuits to protect or enforce our patents, the patents of our licensors or our licenses, which could be expensive, time-consuming, and unsuccessful.

Competitors may infringe our patents or the patents of our licensors. To cease such infringement or unauthorized use, we may be required to file patent infringement claims, which can be expensive and time-consuming. In addition, in an infringement proceeding or a declaratory judgment action against us, a court may decide that one or more of our patents is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceeding could put one or more of our patents at risk of being invalidated, held unenforceable or interpreted narrowly and could put our patent applications at risk of not issuing. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business.

Interference or derivation proceedings provoked by third parties or brought by the USPTO may be necessary to determine the priority of inventions with respect to, or the correct inventorship of, our patents or patent applications or those of our licensors. An unfavorable outcome could result in a loss of our current patent rights and could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms. Litigation, interference or derivation proceedings may result in a decision adverse to our interests and, even if we are successful, may result in substantial costs and distract our management and other employees.

Further, if a party to our licenses, either a licensee or licensor, were to breach or challenge our rights under the relevant license agreement (or if one of our licensor's own licensors were to challenge our licensor's rights), we may have to initiate or participate in a legal proceeding to enforce our rights. Any such legal proceeding could be expensive and time-consuming. In addition, if a court or other tribunal were to rule against us, we could lose key intellectual property and financial rights. Pursuing or defending against these legal claims, regardless of merits, would involve substantial legal expense and would be a substantial diversion of employee resources from our business. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation or contractual litigation there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation or proceeding. In addition, there could 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 have a substantial adverse effect on the price of our common stock.

Issued patents covering our product candidates could be found invalid or unenforceable if challenged in court or before the USPTO or comparable foreign authority.

If we or one of our licensing partners initiate legal proceedings against a third-party to enforce a patent covering one of our product candidates, the defendant could counterclaim that the patent covering our product candidate is invalid or unenforceable. In patent litigation in the U.S., defendant counterclaims alleging invalidity or unenforceability are commonplace, and there are numerous grounds upon which a third-party can assert invalidity or unenforceability of a patent. Third parties may also raise similar claims before administrative bodies in the U.S. or other jurisdictions, even outside the context of litigation. Such mechanisms include re-examination, *inter partes* review, post-grant review and equivalent proceedings in foreign jurisdictions, such as opposition or derivation proceedings. Such proceedings could result in revocation or amendment to our patents in such a way that they no longer cover and protect our product candidates. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity of our patents, for example, we cannot be certain that there is no invalidating prior art of which we, our patent counsel, and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity, unpatentability and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our product candidates. For example, as highlighted in the above risk factor entitled "*We could be unsuccessful in obtaining or maintaining adequate patent protection for one or more of our products or product candidates, or asserting and defending our intellectual property rights that protect our products and technologies*", various third parties have filed challenges to the validity of UC/Vienna/Charpentier's European patents, which cover compositions comprising Cas9 and gRNA molecules, as well as methods of editing DNA *in vitro* or *ex vivo* using Cas9 and gRNAs. If UC/Vienna/Charpentier fail in defending the validity of these patents, we may lose valuable intellectual property rights, such as the exclusive right to use such intellectual property. Such an outcome could have a material adverse effect on our business in Europe.

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance fees on any issued patent are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. Although an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Noncompliance events that could result in abandonment or lapse of a patent or patent application include failure to respond to official actions within prescribed time limits, non-payment of fees, and failure to properly legalize and submit formal documents. In any such event, our competitors might be able to enter the market, which would have a material adverse effect on our business.

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

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected. Our unregistered trademarks or trade names may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names, which we need to build name recognition among potential partners or future, potential 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 unregistered trademarks or trade names. Over the long term, if we are unable to successfully register our trademarks and trade names and 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. Our efforts to enforce or protect our proprietary rights related to trademarks, trade secrets, domain names, copyrights or other intellectual property may be ineffective and could result in substantial costs and diversion of resources and could adversely impact our financial condition or results of operations.

Risks Related to Confidentiality

Confidentiality agreements with employees and third parties may not prevent unauthorized disclosure of trade secrets and other proprietary information.

In addition to the protection afforded by patents, we seek to rely on trade secret protection and confidentiality agreements to protect our proprietary and confidential information. We also utilize proprietary processes for which it would be difficult to enforce patents. In addition, other elements of our product discovery and development processes involve proprietary know-how, information, or technology that is not covered by patents. Trade secrets, however, may be difficult to protect. We seek to protect our proprietary processes, in part, by entering into confidentiality agreements with our employees, consultants, outside scientific advisors, contractors, and collaborators, and we also rely on national and state laws requiring our directors, employees, contractors and collaborators to protect our proprietary information. Although we use reasonable efforts to protect our trade secrets, our employees, consultants, outside scientific advisors, contractors, and collaborators might intentionally or inadvertently disclose our trade secret information to competitors. In addition, competitors may otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. Furthermore, the laws of some foreign countries do not protect proprietary rights to the same extent or in the same manner as the laws of the U.S. As a result, we may encounter significant problems in protecting and defending our intellectual property both in the U.S. and abroad. If we are unable to prevent unauthorized material disclosure of our intellectual property to third parties, or misappropriation of our intellectual property by third parties, we may not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business, operating results, and financial condition. Our trade secrets and other confidential information of ours may also be exposed through cybersecurity attacks, ransomware attacks, and other hacking attempts directed at our information technology systems and those of our employees, consultants, outside scientific advisors, contractors, vendors and collaborators. For more information, please see the risk factor section entitled “Risks Related to Data and Privacy”.

We may be subject to claims that our employees, directors, consultants, or independent contractors have wrongfully used or disclosed confidential information of third parties.

We have received confidential and proprietary information from third parties. In addition, we employ individuals who were previously employed at other biotechnology or pharmaceutical companies as well as academic research institutions. We may be subject to claims that we or our employees, directors, consultants, or independent contractors have inadvertently or otherwise used or disclosed confidential information of these third parties or our employees' former employers. Litigation may be necessary to defend against these claims, which could result in money damages or a judicial order prohibiting the use of certain intellectual property. Even if we are successful in defending against these claims, litigation could result in substantial cost and be a distraction to our management and employees.

Risks Related to Our Common Stock

Risks Related to Investment in Securities

An active trading market for our common stock may not be sustained.

If an active market for our common stock does not continue, it may be difficult for our stockholders to sell their shares without depressing the market price for the shares or sell their shares at or above the prices at which they acquired their shares or sell their shares at the time they would like to sell. Any inactive trading market for our common stock may also impair our ability to raise capital to continue to fund our operations by selling shares and may impair our ability to acquire other companies or technologies by using our shares as consideration.

The price of our common stock historically has been volatile, which may affect the price at which you could sell any shares of our common stock.

The market price for our common stock historically has been highly volatile and could continue to be subject to wide fluctuations in response to various factors. This volatility may affect the price at which you could sell the shares of our common stock, and the sale of substantial amounts of our common stock could adversely affect the price of our common stock. Our stock price is likely to continue to be volatile and subject to significant price and volume fluctuations in response to market and other factors, including:

- the success of our or competing products or technologies;
- results of clinical trials of our product candidates or those of our competitors;
- developments or disputes concerning issued patents, patent applications or other intellectual property rights;
- regulatory or legal developments in the U.S. and other countries;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our product candidates or clinical development programs;
- the results of our efforts to discover, develop, manufacture, acquire or in-license our current and additional product candidates or products;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- variations in our financial results or the financial results of companies that are perceived to be similar to us;
- sales of a substantial number of shares of our common stock in the public market, or the perception in the market that the holders of a large number of shares intend to sell shares;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- public perception of the safety of genome editing based therapeutics;
- general economic, industry and market conditions; and

- the other factors summarized and described in this *Risk Factors* section.

In addition, the trading prices for our common stock and other biopharmaceutical companies have been highly volatile as a result of the COVID-19 pandemic. The extent to which the outbreak may impact our business, preclinical studies and ongoing and planned clinical trials will depend on future developments, which are highly uncertain and cannot be predicted with confidence, such as the emergence of new variants of the disease, the ability of governments to vaccinate their populations and that existing vaccines can treat any new variants effectively, the ultimate containment of the disease, the modification or lifting of travel restrictions and other actions implemented to contain the outbreak or address its impact, such as social distancing and quarantines or lock-downs in the U.S. and other countries, business closures or business disruptions, and the ultimate effectiveness of other actions taken in the U.S. and other countries to contain and address the disease. A resurgence or other negative developments relating to the pandemic may require us to again restrict access to our offices and laboratories, or to pause or suspend preclinical research and our clinical trial; and, further, may disrupt our manufacturing and supply chain or those of our third-party suppliers and manufacturers.

Companies trading in the stock market in general, and in The Nasdaq Global Market in particular, have also experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance. In the past, following periods of volatility in the market, securities class-action litigation has often been instituted against companies. Such litigation, if instituted against us, could result in substantial costs and diversion of management's attention and resources, which could materially and adversely affect our business, financial condition, results of operations and growth prospects.

If securities or industry analysts do not publish research, or publish inaccurate or unfavorable research, about our business, our stock price and trading volume could decline.

The trading market for our common stock will depend, in part, on the research and reports that securities or industry analysts publish about us or our business. Securities and industry analysts may not publish an adequate amount of research on us, which may negatively impact the trading price for our stock. In addition, if one or more of the analysts who cover us downgrade our stock or publish inaccurate or unfavorable research about our business, our stock price would likely decline. Further, if our operating results fail to meet the forecasts of analysts, our stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, demand for our stock could decrease, which might cause our stock price and trading volume to decline.

Because we do not anticipate paying any cash dividends on our capital stock in the foreseeable future, capital appreciation, if any, will be your sole source of gain.

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. In addition, the terms of any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

Risk Related to Ownership Generally

Our principal stockholders and management own a significant percentage of our stock and, if they choose to act together, will be able to control or exercise significant influence over matters subject to stockholder approval.

As of December 31, 2021, our executive officers, directors, 5% or greater stockholders and their affiliates beneficially owned approximately 34.1% of our outstanding voting stock. These stockholders may have the ability to influence us through their ownership positions. These stockholders may be able to determine all matters requiring stockholder approval. For example, these stockholders, acting together, may be able to control elections of directors or approval of any merger, sale of assets or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may believe are in your best interest as one of our stockholders.

We have broad discretion over the use of our cash, cash equivalents and marketable securities, and may not use them effectively.

Our management has broad discretion to use our cash, cash equivalents and marketable securities to fund our operations and could spend these funds in ways that do not improve our results of operations or enhance the value of our common stock. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common stock to decline and delay the development of our product candidates. Pending our use to fund operations, we may invest our cash, cash equivalents and marketable securities in a manner that does not produce income or that loses value.

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

As a public company, and particularly since we are no longer an "emerging growth company" under applicable SEC regulations, we incur significant legal, accounting and other expenses. The Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of the Nasdaq Global 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. Our management and other personnel devote a substantial amount of time to these compliance initiatives.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002 ("Section 404"), we are required to furnish a report by our management on our internal control over financial reporting, including an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. We conduct a process each year to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we dedicate internal resources, engage outside consultants and 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 neither we nor our independent registered public accounting firm will be able to conclude that our internal control over financial reporting is effective as required by Section 404. This could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our consolidated financial statements.

Risks Related to Future Financial Condition

Future sales and issuances of our common stock or rights to purchase common stock, including pursuant to our equity incentive plans, could result in additional dilution of the percentage ownership of stockholders and could cause our stock price to fall.

We will need additional capital in the future to continue our planned operations in addition to the proceeds we received from our initial public offering ("IPO") in May 2016 and follow-on public offerings in November 2017, June 2020, December 2020, and July 2021. To the extent we raise additional capital by issuing equity securities, our stockholders may experience substantial dilution. We may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. If we sell common stock, convertible securities or other equity securities in more than one transaction, investors may be materially diluted by subsequent sales. These sales may also result in material dilution to our existing stockholders, and new investors could gain rights superior to our existing stockholders.

On August 23, 2019, we filed a Registration Statement on Form S-3, as amended (the "2019 Shelf") with the SEC, which was declared effective on September 12, 2019 (File No. 333-233448) in relation to the registration of common stock, preferred stock, debt securities, warrants and units of any combination thereof. We also simultaneously entered into an Open Market Sale Agreement (the "2019 Sale Agreement") with the Sales Agent, to provide for the offering, issuance and sale of up to an aggregate amount of $150.0 million of our common stock from time to time in "at-the-market" offerings under the 2019 Shelf and subject to the limitations thereof. We will pay to the Sales Agent cash commissions of 3.0% of the gross proceeds of sales of common stock under the 2019 Sale Agreement. In December 2019, we issued 287,231 shares of our common stock at an average price of $16.48 per share in accordance with the 2019 Sale Agreement for aggregate net proceeds of $4.4 million, after payment of cash commissions to the Sales Agent and approximately $0.2 million related to legal, accounting and other fees in connection with the sales. During the year ended December 31, 2020, we issued 2,270,161 shares of our common stock in a series of sales at an average

price of $22.53 per share in accordance with the 2019 Sale Agreement, for aggregate net proceeds of $49.5 million after payment of cash commissions to the Sales Agent and legal, accounting and other fees in connection with the sales. During the year ended December 31, 2021, we issued 641,709 shares of our common stock in a series of sales at an average price of $72.79 per share in accordance with the 2019 Sale Agreement, for aggregate net proceeds of $45.3 million after payment of cash commissions to Jefferies and approximately $0.1 million related to legal, accounting and other fees in connection with the sales. In June 2020, we issued 6,301,370 shares of our common stock, including the exercise in full by the underwriters of their option to purchase an additional 821,917 shares, at the public offering price of $18.25 per share pursuant to the 2019 Shelf for aggregate cash consideration of $107.7 million, after payment of commissions and fees and approximately $0.4 million related to legal, accounting and other fees in connection with the sales. In June 2020 we also issued 925,218 shares of our common stock to Regeneron in a private placement for an aggregate cash consideration of $30.0 million, or $32.42 per share, representing a 100% premium over the volume-weighted average trading price of the Company's common stock during the 30-day period prior to the closing. On November 30, 2020, we filed a Registration Statement on Form S-3ASR (the "Universal Shelf") with the SEC, which was automatically declared effective upon filing (File No. 333-251022) in relation to the registration of common stock, preferred stock, debt securities, warrants and units of any combination thereof. In December 2020, we issued 5,513,699 shares of our common stock, including the exercise in full by the underwriters of their option to purchase an additional 719,178 shares, at the public offering price of $36.50 per share pursuant to the Universal Shelf for aggregate cash consideration of $188.9 million, after deducting the underwriting discount, commissions and offering expenses. In July 2021, we issued 4,758,620 shares of our common stock, including the exercise in full by the underwriters of their option to purchase an additional 620,689 shares, at the public offering price of $145.00 per share pursuant to the Universal Shelf for aggregate cash consideration of approximately $648.3 million, after deducting the underwriting discount, commissions and estimated offering expenses. In addition, sales of a substantial number of shares of our outstanding common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares of common stock intend to sell shares, could reduce the market price of our common stock. Persons who were our stockholders prior to our IPO continue to hold a substantial number of shares of our common stock that many of them are now able to sell in the public market. Significant portions of these shares are held by a relatively small number of stockholders. Sales by our stockholders of a substantial number of shares, or the expectation that such sales may occur, could significantly reduce the market price of our common stock.

Risks Related to our Charter and Bylaws

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us difficult, limit attempts by our stockholders to replace or remove our current management and adversely affect our stock price.

Provisions of our certificate of incorporation and by-laws may delay or discourage transactions involving an actual or potential change in our control or change in our management, including transactions in which stockholders might otherwise receive a premium for their shares, or transactions that our stockholders might otherwise deem to be in their best interests. Therefore, these provisions could adversely affect the price of our stock. Among other things, the certificate of incorporation and by-laws:

- permit the board of directors to issue up to 5,000,000 shares of preferred stock, with any rights, preferences and privileges as they may designate;
- provide that the authorized number of directors may be changed only by resolution of the board of directors;
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- divide the board of directors into three classes;
- provide that a director may only be removed from the board of directors by the stockholders for cause;
- require that any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders, and may not be taken by written consent;

- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide notice in writing in a timely manner, and meet specific requirements as to the form and content of a stockholder's notice;
- prevent cumulative voting rights (therefore allowing the holders of a plurality of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election, if they should so choose);
- require that, to the fullest extent permitted by law, a stockholder reimburse us for all fees, costs and expenses incurred by us in connection with a proceeding initiated by such stockholder in which such stockholder does not obtain a judgment on the merits that substantially achieves the full remedy sought;
- provide that special meetings of our stockholders may be called only by the chairman of the board, our chief executive officer (or president, in the absence of a chief executive officer) or by the board of directors; and
- provide that stockholders will be permitted to amend the bylaws only upon receiving at least two-thirds of the total votes entitled to be cast by holders of all outstanding shares then entitled to vote generally in the election of directors, voting together as a single class.

In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which generally prohibits a Delaware corporation from engaging in any of a broad range of business combinations with any "interested" stockholder for a period of three years following the date on which the stockholder became an "interested" stockholder.

Our certificate of incorporation and by-laws designate certain courts as the sole and exclusive forums for certain disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our certificate of incorporation and by-laws provide that, 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 any derivative action or proceeding brought on our behalf alleging state law claims, any action asserting a breach of fiduciary duty, any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our certificate of incorporation or our by-laws, any action to interpret, apply, enforce, or determine the validity of our certificate of incorporation or bylaws, or any action asserting a claim against us that is governed by the internal affairs doctrine (the "Delaware Forum Provision"). The Delaware Forum Provision does not apply to claims arising under the Exchange Act or the Securities Act. Our by-laws further provide that the U.S. District Court for the District of Massachusetts will be the sole and exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act (the "Federal Forum Provision"). We have chosen the U.S. District Court for the District of Massachusetts as the exclusive forum for such Securities Act causes of action because our principal executive offices are located in Cambridge, Massachusetts. Our by-laws provide that any person or entity purchasing or otherwise acquiring any interest in any shares of our common stock is deemed to have notice of and consented to the foregoing Delaware Forum Provision and the Federal Forum Provision.

The Delaware Forum Provision and the Federal Forum Provision may impose additional litigation costs on stockholders in pursuing the claims identified above, particularly if the stockholders do not reside in or near the State of Delaware or the Commonwealth of Massachusetts. Additionally, the Delaware Forum Provision and the Federal Forum Provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and other employees. Alternatively, if a court were to find the Delaware Forum Provision and the Federal Forum Provision to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our business and financial condition. The Court of Chancery of the State of Delaware or the U.S. District Court for the District of Massachusetts 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.

Risks Related to Tax Matters

Changes in tax law may adversely affect our business and financial condition.

The laws and rules dealing with U.S. federal, state and local income taxation are routinely being reviewed and modified by governmental bodies, officials and regulatory agencies, including the Internal Revenue Service and the U.S. Treasury Department. Since we were founded in 2014, 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 issued, that could result in an increase in our or our stockholders' tax liability.

Our ability to use our net operating loss ("NOL") carryforwards and certain other tax attributes may be limited.

We have incurred substantial losses during our history and do not expect to become profitable in the near future, and we may never achieve profitability. To the extent that we continue to generate taxable losses, unused losses will carry forward to offset future taxable income, if any, until such unused losses expire. As of December 31, 2021, we had federal and state NOLs of $800.5 million and $767.8 million, respectively, some of which begin to expire in 2034. Federal and certain state NOLs generated in taxable years ending after December 31, 2017 are not subject to expiration. As of December 31, 2021, we had federal and state research and development and other credit carryforwards of approximately $37.9 million and $30.2 million, which begin to expire in 2034 and 2029, respectively. Under Sections 382 and 383 of the Code, if a corporation undergoes an "ownership change," generally defined as a greater than 50 percentage point change (by value) in its equity ownership by certain stockholders 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. We may have experienced ownership changes in the past and may experience ownership changes in the future as a result of our initial public offering in May of 2016, follow-on offerings and/or subsequent shifts in our stock ownership (some of which shifts are outside our control). As a result, if we earn net taxable income, our ability to use our pre-change NOLs and research and development tax credits to offset such taxable income and income tax, respectively, could be subject to limitations. Similar provisions of state tax law may also apply. As a result, even if we attain profitability, we may be unable to use a material portion of our NOLs and other tax attributes.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our headquarters are located at 40 Erie Street in Cambridge, Massachusetts, where we occupy approximately 65,000 square feet of office and laboratory space. We have a ten-year lease agreement expiring in September 2026, with an option to extend the term of the lease for an additional three years. In addition, we lease approximately 15,200 square feet of office and laboratory space at 130 Brookline Street in Cambridge, Massachusetts, which expires in 2031. In March 2020, we entered into an agreement to lease approximately 39,000 square feet of office and laboratory space at 281 Albany Street in Cambridge, Massachusetts with an initial term of ten years and an option to extend the lease for two successive five-year terms. In July 2021, we entered into an agreement to lease approximately 14,000 square feet of office space at 17 Tudor Street in Cambridge, Massachusetts with an initial term of five years and an option to extend the lease for one three-year term. We also entered into a lease modification in July 2021 that extended an existing lease for a clean room located in Waltham, Massachusetts for an additional two years. In January 2022, we entered into an agreement to lease approximately 38,000 square feet at 730 Main Street, Cambridge, Massachusetts with an initial term of ten years and an option to extend the lease for one five-year term. In February 2022, we entered into an agreement to lease approximately 140,000 square feet at 840 Winter Street, Waltham Massachusetts, which will provide us with the ability to manufacture products in a good manufacturing practice ("GMP") compliant facility. This lease is expected to commence on February 1, 2024 with an initial term of twelve years and an option to extend the lease for two five-year terms.

Item 3. Legal Proceedings

In the ordinary course of business, we are from time to time involved in lawsuits, claims, investigations, proceedings, and threats of litigation related to intellectual property ("IP"), commercial arrangements and other matters, including the matter described below. The outcome of any such legal proceedings, regardless of the merits, is inherently uncertain. In addition, litigation and related matters are costly and may divert the attention of our management and other resources that would otherwise be engaged in other activities. If we were unable to prevail in any such legal proceedings, our business, results of operations, liquidity and financial condition could be adversely affected.

Caribou Intellectual Property Arbitration

On October 17, 2018, we initiated an arbitration proceeding against Caribou Biosciences, Inc. ("Caribou") asserting that Caribou violated the terms and conditions of a license agreement we entered into with them in July 2014 related to certain IP (the "Caribou License"), as well as other contractual and legal obligations to us, by using and seeking to license to third parties two patent families relating to specific structural or chemical modifications of guide RNAs ("gRNAs"), that were purportedly invented or controlled by Caribou, in our exclusive human therapeutic field, before an agreed-upon cutoff date of January 30, 2018.

On September 26, 2019, we announced that the arbitration panel issued an interim award concluding that both the structural and chemical gRNA modification technologies were exclusively licensed to us by Caribou pursuant to the Caribou License. Nevertheless, the arbitration panel, solely with respect to the clinically modified gRNAs, stated that it will declare that Caribou has an equitable "leaseback", which it described as exclusive, perpetual and worldwide (the "Caribou Award"). The Caribou Award does not include the structural guide modifications IP also at issue in the arbitration, any other IP exclusively licensed or sublicensed by Caribou to us under the Caribou License (including but not limited to the foundational CRISPR/Cas9 IP co-owned by the Regents of the University of California, University of Vienna and Dr. Emmanuelle Charpentier), or any other of our IP. On February 6, 2020, the panel clarified that the Caribou Award is limited to a particular on-going Caribou program, known as CB-010, which seeks to develop a CAR-T product directed at CD19.

On June 16, 2021, we executed a Leaseback Agreement ("Leaseback") with Caribou, which settled the ongoing arbitration. Under the Leaseback negotiated by the parties, in exchange for an upfront payment, potential future regulatory and sales milestones, and single-digit royalties payable by Caribou, we agreed to leaseback or sublicense certain CRISPR/Cas9 IP, including our chemical gRNA modification technology and foundational CRISPR/Cas9 IP, to Caribou so that it can develop and commercialize CB-010. Caribou also will be responsible for any payments required in respect of our in-licensed IP. We recorded $1.0 million within "Collaboration Revenue" in the second quarter of 2021 on the condensed consolidated statement of operations and comprehensive loss for an upfront payment related to the Leaseback and received the payment in the third quarter of 2021.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for the Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Our common stock is traded on the Nasdaq Global Market under the symbol "NTLA".

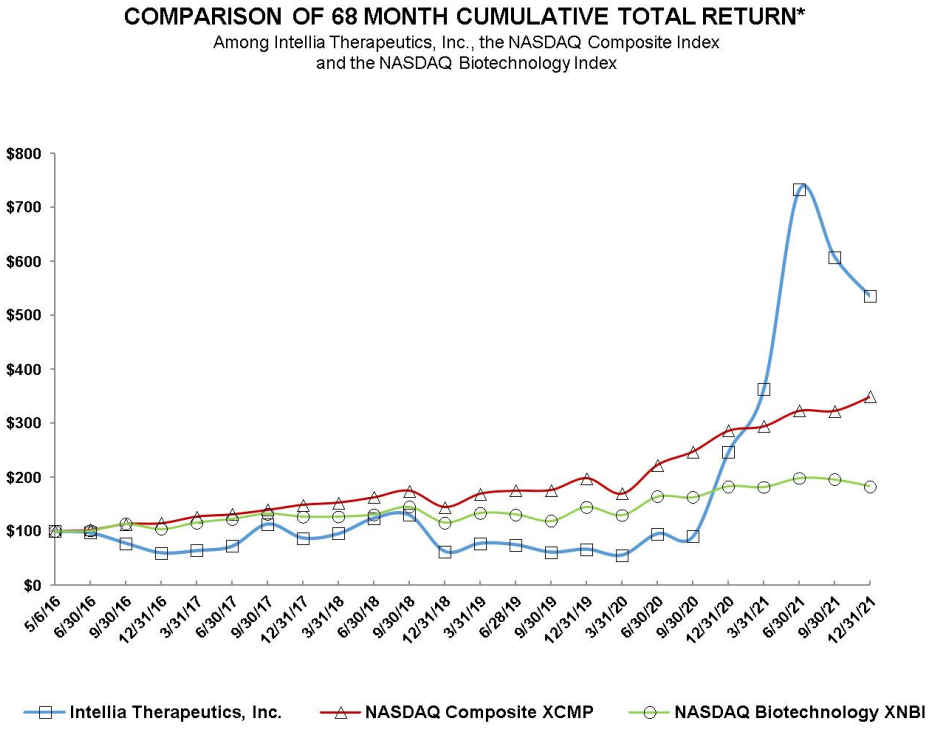
As of February 17, 2022, the number of holders of record of our common stock was 12. The actual number of holders of our common stock is greater than this number of record holders, and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers or held by other nominees. This holders of record number also does not include stockholders whose shares may be held in trust by other entities.

Dividends

We have never declared or paid cash dividends on our capital stock. We intend to retain all of our future earnings, if any, to finance the growth and development of our business. We do not intend to pay cash dividends to our stockholders in the foreseeable future.

Stock Performance Graph

The following graph shows a comparison from May 6, 2016, the first date that shares of our common stock were publicly traded, through December 31, 2021, of the cumulative total return on an assumed investment of $100.00 in cash in our common stock, the Nasdaq Composite Index and the Nasdaq Biotechnology Index for the same period. Such returns are based on historical results and are not intended to suggest future performance. Data for the Nasdaq Composite Index and the Nasdaq Biotechnology Index assume reinvestment of dividends.



The performance graph in this Item 5 is not deemed to be “soliciting material” or to be “filed” with the Securities and Exchange Commission for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended, or otherwise subject to the liabilities under that Section, and shall not be deemed incorporated by reference into any of our filings under the Securities Act of 1933 or the Securities Exchange Act of 1934, except to the extent we specifically incorporate it by reference into such a filing.

Equity Compensation Plans

The information required by Item 5 of Form 10-K regarding equity compensation plans is incorporated herein by reference to Item 12 of Part III of this Annual Report on Form 10-K.

Issuer Purchases of Equity Securities

We did not purchase any of our registered equity securities during the period covered by this Annual Report.

Unregistered Sales of Equity Securities and Use of Proceeds

None.

Item 6. Reserved.

Not applicable.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Our management's discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements included in this Annual Report on Form 10-K, which have been prepared by us in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") and with Regulation S-X, promulgated under the Securities Exchange Act of 1934, as amended. This discussion and analysis should be read in conjunction with these consolidated financial statements and the notes thereto included elsewhere in this Annual Report on Form 10-K. Some of the information contained in this discussion and analysis or set forth elsewhere in this Annual Report on Form 10-K, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in Part I, Item 1A. *Risk Factors* of this Annual Report on Form 10-K, our actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Information pertaining to fiscal year 2019 was included in our Annual Report on Form 10-K for the year ended December 31, 2020 on pages 91 through 100 under Part II, Item 7, "Management's Discussion and Analysis of Financial Position and Results of Operations," which was filed with the Securities and Exchange Commission (the "SEC") on February 26, 2021.

Management Overview

Intellia Therapeutics, Inc. ("we," "us," "our," "Intellia," or the "Company") is a leading clinical-stage genome editing company, focused on developing novel, potentially curative CRISPR/Cas9-based therapeutics. CRISPR/Cas9, an acronym for Clustered, Regularly Interspaced Short Palindromic Repeats ("CRISPR")/CRISPR associated 9 ("Cas9"), is a technology for genome editing, the process of altering selected sequences of genomic deoxyribonucleic acid ("DNA"). To realize the transformative potential of CRISPR/Cas9-based technologies, we are building a full-spectrum genome editing company, by leveraging our modular platform, to advance *in vivo a*nd *ex vivo* therapies for diseases with high unmet need. For our *in vivo* programs to address genetic diseases, we use intravenously administered CRISPR as the therapy, in which our proprietary delivery technology enables highly precise editing of disease-causing genes directly within specific target tissues. For our *ex vivo* programs to address immuno-oncology and autoimmune diseases, we use CRISPR to create the therapy by engineering cells outside of the body. Our deep scientific, technical and clinical development experience, along with our robust intellectual property ("IP") portfolio, enables us to unlock broad therapeutic applications of CRISPR/Cas9 and related technologies to create new classes of genetic medicine. For more information regarding our business, mission and pipeline, see above sections in Part I entitled "**Overview**", "**Strategy**" and "**Our Pipeline**".

Financial Overview

Collaboration Revenue

Our revenue consists of collaboration revenue, including amounts recognized related to upfront technology access payments for licenses, technology access fees, research funding and milestone payments earned under our collaboration and license agreements with Regeneron Pharmaceuticals, Inc. ("Regeneron"), Novartis Institutes for BioMedical Research, Inc. ("Novartis") and AvenCell Therapeutics, Inc. ("AvenCell"), a new universal CAR-T cell therapy joint venture and privately held company that was formed by us, Cellex Cell Professionals GmbH ("Cellex") and funds managed by Blackstone Life Sciences Advisors L.L.C. ("BXLS").

Research and Development

Research and development expenses consist of expenses incurred in performing research and development activities, such as compensation and benefits, which includes equity-based compensation, for full-time research and development employees, allocated facility-related expenses, overhead expenses, license and milestone fees, contract research, development and manufacturing services, clinical trial costs and other related costs.

General and Administrative

General and administrative expenses consist primarily of compensation and benefits, including equity-based compensation, for our executive, finance, legal, human resources, business development and support functions. Also included in general and administrative expenses are allocated facility-related costs not otherwise included in research and development expenses, travel expenses and professional fees for auditing, tax and legal services, including IP-related legal services, and other consulting fees and expenses.

Interest Income

Interest income is income earned on our cash, cash equivalents, restricted cash equivalents and marketable securities.

Results of Operations

The following discussion of the financial condition and results of operations should be read in conjunction with the accompanying consolidated financial statements and the related footnotes thereto.

Comparison of Years Ended December 31, 2021 and 2020

The following table summarizes our results of operations for the years ended December 31, 2021 and 2020 (in thousands):

	Year Ended December 31,		Period-to-Period Change
	2021	2020	
Collaboration revenue	$ 33,053	$ 57,994	$ (24,941)
Operating expenses:			
Research and development	229,807	150,408	79,399
General and administrative	71,096	44,169	26,927
Total operating expenses	300,903	194,577	106,326
Operating loss	(267,850)	(136,583)	(131,267)
Other (expense) income, net:			
Loss from equity method investment	(1,325)	-	(1,325)
Interest income	1,283	2,352	(1,069)
Total other (expense) income, net	(42)	2,352	(2,394)
Net loss	$ (267,892)	$ (134,231)	$ (133,661)

Collaboration Revenue

Collaboration revenue decreased by $24.9 million to $33.1 million during the year ended December 31, 2021, as compared to $58.0 million during the year ended December 31, 2020. The decrease in collaboration revenue during the year ended December 31, 2021 is primarily due to our recording $15.3 million related to the transfer of control of the license to develop the Factor VIII target for hemophilia A, an $8.4 million one-time cumulative catch-up adjustment related to the modification of our agreement with Regeneron, and a $5.0 million milestone payment earned from Novartis for the Investigational New Drug ("IND") application submission of OTQ923, all of which were recorded in 2020. These decreases are offset in part by $6.1 million in revenue recorded in 2021 from our joint venture with AvenCell. Refer to Note 9 to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K for further details.

Research and Development

Research and development expenses increased by $79.4 million to $229.8 million during the year ended December 31, 2021, as compared to $150.4 million during the year ended December 31, 2020.

The following table summarizes our research and development expenses for the years ended December 31, 2021 and 2020, together with the changes in those items in dollars (in thousands) and the respective percentages of change.

	Year Ended December 31,		Period-to-Period Change	Percent Change
	2021	2020		
External development expenses by program:				
NTLA-2001	$ 24,350	$ 22,248	$ 2,102	9%
NTLA-2002	7,375	5,858	1,517	26%
NTLA-5001	22,157	14,431	7,726	54%
Unallocated research and development expenses:				
Employee-related expenses	70,798	42,193	28,605	68%
Research materials and contracted services	49,796	34,266	15,530	45%
Facility-related expenses	26,873	19,530	7,343	38%
Stock-based compensation	26,712	10,202	16,510	162%
Other	1,746	1,680	66	4%
Total research and development expenses	$ 229,807	$ 150,408	$ 79,399	53%

The increase in research and development expenses for the year ended December 31, 2021 compared to the year ended December 31, 2020 was primarily attributable to:

- a $2.1 million increase in external costs related to the development of NTLA-2001, our lead product candidate, primarily due to an increase in contracted services, offset in part by decreases in consulting and manufactured components incurred as compared to the prior period;
- a $1.5 million increase in external costs related to the development of NTLA-2002, primarily due to increases in component costs and contracted services as we prepared to enroll patients;
- a $7.7 million increase in external costs related to the development of NTLA-5001, primarily due to an increase in contracted services as we prepared to enter into the clinic;
- a $28.6 million increase in employee-related expenses driven by the expansion of our development organization;
- a $15.5 million increase in research materials and contracted services primarily due to an increase in drug components and research and development contracted services;
- a $7.3 million increase in facility-related expenses primarily related to rent, depreciation and technology expense allocated to research and development; and
- a $16.5 million increase in stock-based compensation driven by our larger workforce as well as our increased stock price as compared to the prior year.

During 2022, we expect research and development expenses to increase as we continue to grow our development team, execute clinical trials for NTLA-2001 and NTLA-2002, progress our NTLA-5001 program and nominate new development candidates to enter the clinic.

General and Administrative

General and administrative expenses increased by approximately $26.9 million to $71.1 million during the year ended December 31, 2021, compared to $44.2 million during the year ended December 31, 2020. This increase was primarily related to an increase in employee-related expenses, including stock-based compensation of $10.6 million, driven by our larger workforce as well as our increased stock price as compared to the prior year.

Loss from Equity Method Investment

Loss from equity method investment represents our share of two months of AvenCell's losses generated in the third quarter of 2021, amounting to $1.3 million, as we are recording our share of their losses on a one-quarter lag. Refer to Note 9 to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K for further details.

Interest Income

Interest income decreased by approximately $1.1 million to $1.3 million during the year ended December 31, 2021 as compared to $2.4 million during the year ended December 31, 2020. This decrease was due to a decline in investment income due to overall market conditions.

Liquidity and Capital Resources

Since our inception through December 31, 2021, we have raised an aggregate of $1,817.9 million to fund our operations through our initial public offering ("IPO") and concurrent private placements, follow-on public offerings, at-the-market offerings and the sale of convertible preferred stock, as well as through our collaboration agreements.

As of December 31, 2021, we had $1,086.0 million in cash, cash equivalents and marketable securities.

We are eligible to earn a significant amount of milestone payments and royalties, in each case, on a per-product basis under our collaborations with Novartis and SparingVision SAS ("SparingVision"), on a per-target basis under our collaboration with Regeneron and upon achievement of certain events under our collaboration with Kyverna Therapeutics, Inc. ("Kyverna"). Our ability to earn these milestone payments and the timing of achieving these milestones is dependent upon the outcome of our research and development activities and is uncertain at this time. Our rights to payments under our collaboration agreements are our only committed external source of funds.

Follow-on Offerings

On June 1, 2020, we entered into an underwriting agreement related to a public offering of 6,301,370 shares of our common stock, par value $0.0001 per share, including the exercise in full by the underwriters of their option to purchase an additional 821,917 shares, at the public offering price of $18.25 per share. The offering closed on June 5, 2020 and we received net proceeds of $107.7 million, after deducting the underwriting discount, commissions and offering expenses.

On December 1, 2020, we entered into an underwriting agreement related to a public offering of 5,513,699 shares of our common stock, par value $0.0001 per share, including the exercise in full by the underwriters of their option to purchase an additional 719,178 shares, at the public offering price of $36.50 per share. The offering closed on December 4, 2020 and we received net proceeds of $188.9 million, after deducting the underwriting discount, commissions and offering expenses.

In July 2021, we closed an underwritten public offering of 4,758,620 shares of common stock, including the exercise in full of the underwriters' option to purchase an additional 620,689 shares of common stock, at the public offering price of $145.00 per share, for aggregate net proceeds of $648.3 million, after deducting approximately $41.7 million in underwriting discounts and offering costs.

At-the-Market Offering Programs

In August 2019, we entered into an Open Market Sale Agreement (the "2019 Sale Agreement") with Jefferies LLC ("Jefferies"), under which Jefferies is able to offer and sell, from time to time in "at-the-market" offerings, shares of our common stock having aggregate gross proceeds of up to $150.0 million. We agreed to pay to Jefferies cash commissions of 3.0% of the gross proceeds of sales of common stock under the 2019 Sale Agreement. During the year ended December 31, 2019, we issued 287,231 shares of our common stock, in a series of sales, at an average price of $16.48 per share, in accordance with the 2019 Sale Agreement for aggregate net proceeds of $4.4 million, after payment of cash commissions to Jefferies and approximately $0.2 million related to legal, accounting and other fees in connection with the sales. During the year ended December 31, 2020, we issued 2,270,161 shares of our common stock in a series of sales at an average price of $22.53 per share in accordance with the 2019 Sale Agreement, for aggregate net proceeds of $49.5 million after payment of cash commissions to Jefferies and approximately $0.2 million related to legal, accounting and other fees in connection with the sales. During the year ended December 31, 2021, we issued 641,709 shares of our common stock in a series of sales at an average price of $72.79 per share in accordance with the 2019 Sale Agreement, for aggregate net proceeds of $45.3 million after payment of cash commissions to Jefferies and approximately $0.1 million related to legal, accounting and other fees in connection with the sales.

As of December 31, 2021, $47.4 million in shares of common stock remain eligible for sale under the 2019 Sale Agreement.

Shares Issued in Private Placement to Regeneron

As described in Note 9 to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K, in May 2020 we entered into the 2020 Regeneron Amendment. Simultaneously with the 2020 Regeneron Amendment, we and Regeneron entered into the 2020 Stock Purchase Agreement, under which we sold to Regeneron 925,218 shares of our common stock, par value $0.0001 per share, for aggregate cash consideration of $30.0 million, or $32.42 per share, representing a 100% premium over the volume-weighted average trading price of our common stock during the 30-day period prior to the closing. Under the 2020 Stock Purchase Agreement, Regeneron will not dispose of any shares of common stock it beneficially owns in Intellia until the termination of the Technology Collaboration Term (see Note 9). After applying equity accounting guidance to measure the issuance of the shares, $12.6 million was recorded as fair value in the consolidated statement of stockholders' equity for the shares.

Funding Requirements

Our primary uses of capital are, and we expect will continue to be, research and development contracted services, clinical trial costs, compensation and related expenses, laboratory and office facilities, research supplies, legal and regulatory expenses, patent prosecution filing and maintenance costs for our licensed IP, milestone and royalty payments and general overhead costs. During 2022, we expect our expenses to increase compared to prior periods in connection with our ongoing activities as we continue to grow our research and development team and clinical development in NTLA-2001, NTLA-2002 and NTLA-5001 and advance additional programs into clinical development.

Because our lead programs are still in the early clinical stage and the outcome of these efforts is uncertain, we cannot estimate the actual amounts necessary to successfully complete the development and commercialization of any future product candidates or whether, or when, we may achieve profitability. Until such time as we can generate substantial product revenues, if ever, we expect to finance our ongoing cash needs through equity financings and collaboration arrangements. We receive cost reimbursements from Regeneron for the transthyretin ("ATTR") amyloidosis and hemophilia programs. Additionally, we are eligible to earn milestone payments and royalties, in each case, on a per-product basis under our collaborations with Novartis and SparingVision, on a per-target basis under our collaboration with Regeneron, and upon achievement of certain events with Kyverna, subject to the provisions of our agreements with each of them. Except for these sources of funding, we will not have any committed external source of liquidity. To the extent that we raise additional capital through the future sale of equity, the ownership interest of our stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our existing stockholders. If we raise additional funds through collaboration arrangements in the future, we may have to relinquish valuable rights to our technologies, future revenue streams 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 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.

Outlook

Based on our research and development plans and our expectations related to the progress of our programs, we expect that our cash, cash equivalents and marketable securities as of December 31, 2021, as well as research and cost reimbursement funding from Regeneron, AvenCell and SparingVision, will enable us to fund our ongoing operating expenses and capital expenditure requirements beyond the next 24 months, excluding any potential milestone payments or extension fees that could be earned and distributed under our collaboration agreements or any strategic use of capital not currently in the base case planning assumptions. We have based this estimate on current assumptions that may prove to be wrong, and we could use our capital resources sooner than we expect.

Our ability to generate revenue and achieve profitability depends significantly on our success in many areas, including: developing our delivery technologies and our CRISPR/Cas9 technology platform; selecting appropriate product candidates to develop; completing research and preclinical and clinical development of selected product candidates; obtaining regulatory approvals and marketing authorizations for product candidates for which we complete clinical

trials; developing a sustainable and scalable manufacturing process for product candidates; launching and commercializing product candidates for which we obtain regulatory approvals and marketing authorizations, either directly or with a collaborator or distributor; obtaining market acceptance of our product candidates; addressing any competing technological and market developments; negotiating favorable terms in any collaboration, licensing, or other arrangements into which we may enter; maintaining good relationships with our collaborators and licensors; maintaining, protecting, and expanding our portfolio of IP rights, including patents, trade secrets, and know-how; and attracting, hiring, and retaining qualified personnel.

Cash Flows

The following is a summary of cash flows for the years ended December 31, 2021 and 2020:

	Year Ended December 31,	
	2021	2020
	(In millions)	
Net cash used in operating activities	$ (225.0)	$ (49.9)
Net cash used in investing activities	(550.8)	(214.5)
Net cash provided by financing activities	736.7	371.8

Net cash used in operating activities

Net cash used in operating activities of $225.0 million during the year ended December 31, 2021 primarily reflects increased spend in our research and development activities offset by the receipt of $6.7 million in payments from our collaboration partners during that period. Net cash used in operating activities of $49.9 million during the year ended December 31, 2020 primarily reflects increased spend in our research and development activities, offset in part by the receipt of a $70.0 million up-front payment and $12.2 million in additional payments under our collaboration with Regeneron and $6.0 million in payments from Novartis.

Net cash used in investing activities

During the year ended December 31, 2021, our investing activities used net cash of $550.8 million. The increase in the year ended December 31, 2021 is primarily due to marketable securities activity during the period, as $1,020.6 million in marketable securities were purchased and $485.6 million in marketable securities matured, as well as the use of $12.8 million in cash for the purchase of property and equipment and $3.0 million for an investment in Kyverna. During the year ended December 31, 2020, our investing activities used net cash of $214.5 million. The decrease in the year ended December 31, 2020 is primarily related to a decrease of $210.9 million from marketable securities activity during the period, as $473.7 million in marketable securities were purchased and $262.8 million in marketable securities matured, as well as the use of $3.6 million in cash for the purchase of property and equipment.

Net cash provided by financing activities

Net cash provided by financing activities of $736.7 million during the year ended December 31, 2021 is primarily due to the receipt of $648.3 million in net proceeds from a follow-on offering of our common stock, $45.3 million in net proceeds from at-the-market offerings, $41.1 million in cash received from the exercise of stock options and $2.0 million in cash received from the issuance of shares through our employee stock purchase plan. Net cash provided by financing activities of $371.8 million during the year ended December 31, 2020 includes $296.6 million in proceeds from follow-on offerings, $49.5 million in net proceeds from at-the-market offerings, $12.6 million in proceeds from the issuance of common stock to Regeneron in a private placement, $11.6 million in cash received from the exercise of stock options and $1.6 million in cash received from the issuance of shares through our employee stock purchase plan.

Contractual and Other Obligations

We have entered into arrangements that contractually obligate us to make payments that will affect our liquidity and cash flows in future periods.

Property Leases - Commenced

As of December 31, 2021, our contractual commitments for leases were $91.8 million, which will be paid over the term of such leases. For additional information on our leases and timing of future payments refer to Note 11 of the consolidated financial statements included in this Annual Report on Form 10-K.

Property Leases – Not Yet Commenced

In January 2022, we entered into a lease agreement for office and laboratory space at 730 Main Street in Cambridge, Massachusetts, which is described in further detail in Note 17 of the consolidated financial statements included in this Annual Report on Form 10-K. In connection therewith, we have committed to making at least $56.1 million in rental payments over a lease term of 120 months.

In February 2022, we entered into a lease agreement for good manufacturing practice ("GMP") manufacturing space at 840 Winter Street in Waltham, Massachusetts, which is described in further detail in Note 17 of the consolidated financial statements included in this Annual Report on Form 10-K. In connection therewith, we have committed to making at least $146.0 million in rental payments over a lease term of 144 months estimated to begin in 2024.

Other Obligations

We enter into contracts in the normal course of business with various third parties for clinical trials, preclinical research studies, supply manufacturing and other services and products for operating purposes. As of December 31, 2021, we have $9.1 million of commitments that are legally enforceable and due within one year.

We do not include any potential future pass-through milestone payments or royalty payments we may be required to make under our existing license agreements or the merger agreement related to our acquisition of Rewrite Therapeutics, Inc. ("Rewrite") due to the uncertainty of the occurrence of the events requiring payment under those agreements. These payments are not reflected in the disclosures above.

Critical Accounting Policies and Use of Estimates

Our management's discussion and analysis of financial condition and results of operations is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the U.S. The preparation of these consolidated financial statements requires us to make estimates, judgments and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities as of the date of the balance sheets and the reported amounts of collaboration revenue and expenses during the reporting periods. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances at the time such estimates are made. Actual results and outcomes may differ materially from our estimates, judgments and assumptions. We periodically review our estimates in light of changes in circumstances, facts and experience. The effects of material revisions in estimates are reflected in the consolidated financial statements prospectively from the date of the change in estimate. Refer to Note 2 to our consolidated financial statements of this Annual Report on Form 10-K for our significant accounting policies related to our critical accounting estimates.

We define our critical accounting policies as those accounting principles generally accepted in the U.S. that require the most significant estimates and judgments about matters that are uncertain and are likely to have a material impact on our financial condition and results of operations as well as the specific manner in which we apply those principles. We believe the critical accounting policies used in the preparation of our consolidated financial statements which require significant estimates and judgments are as follows:

Revenue Recognition

We recognize revenue in accordance with Accounting Standards Update ("ASU") 2014-09, *Revenue from Contracts with Customers (Topic 606)* and its related amendments (collectively known as Accounting Standard Codification ("ASC") 606 "ASC 606").

At inception, we determine whether contracts are within the scope of ASC 606 or other topics. For contracts that are determined to be within the scope of ASC 606, revenue is recognized when a customer obtains control of promised goods or services. The amount of revenue recognized reflects the consideration to which we expect to be entitled to

receive in exchange for these goods and services. To achieve this core principle, we apply the following five steps: (i) identify the contract with the customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when or as we satisfy a performance obligation. We only apply the five-step model to contracts when we determine that collection of substantially all consideration for goods and services that are transferred is probable based on the customer's intent and ability to pay the promised consideration.

As of December 31, 2021, our only revenue recognized is related to collaboration agreements with third parties which are either within the scope of ASC 606, under which we license certain rights to our product candidates to third parties, or within the scope of ASC 808, *Collaborative Arrangements* ("ASC 808") if it involves a joint operating activity pursuant to which we are an active participant and are exposed to significant risks and rewards with respect to the arrangement. As discussed in further detail in Note 9 to our consolidated financial statements of this Annual Report on Form 10-K, we enter into out-licensing agreements which are within the scope of ASC 606, under which we license certain rights to our product candidates to third parties and may provide services related to the research and development of the product candidates. The terms of these arrangements typically include consideration payable to us of one or more of the following: nonrefundable, upfront fees; development, regulatory, and commercial milestone payments; research and development funding payments; and royalties on the net sales of licensed products. Additionally, the terms of certain arrangements may include an equity interest in the other company. Consideration received from each of these payments results in collaboration revenues, except for revenues from royalties on the net sales of licensed products, which are classified as royalty revenues. For arrangements within the scope of ASC 808, the terms of these arrangements typically include payments received or made under the cost sharing provisions which are recognized as a component of collaboration revenues in the consolidated statements of operations and comprehensive loss.

In determining the accounting for each contract, the significant areas of management judgement or estimation include determining the transaction price, identifying the distinct performance obligations within a contract, determining the standalone selling prices for distinct performance obligations when more than one distinct performance obligation is identified within a contract and determining the revenue recognition pattern for each performance obligation that best reflects the timing of when we transfer control of goods and services to the customer. If the consideration received in exchange for entering into a contract is in the form of noncash consideration, we are required to estimate the fair value of the noncash consideration received. If our estimates of the noncash consideration received are not appropriate it could impact the total amount of revenue recognized for the contract. Furthermore, many of our performance obligations, whether distinct or combined, do not have readily available standalone selling prices and therefore we are required to make judgements and estimates regarding the standalone selling prices when relevant. To the extent the estimates are not appropriate in the circumstances, it could impact the timing of our revenue recognition. We evaluate the measure of progress each reporting period and if estimates related to the measure of progress change, related revenue recognition is adjusted accordingly.

Investment Valuation

As discussed in Notes 9 and 10 to our consolidated financial statements of this Annual Report on Form 10-K, during the year ended December 31, 2021, we entered into agreements with AvenCell, SparingVision and Kyverna, which resulted in us applying judgment in determining the accounting for the agreements, and in particular, measuring the fair value of the non-cash consideration we received in exchange for our licenses granted and related research and development services, which includes equity in private companies in which the fair value is not readily available. The fair value of these investments represents the transaction price of the arrangement and will drive the amount of revenue we recognize in future periods.

We engaged an independent valuation specialist to determine the fair value of the equity interest received related to the AvenCell and SparingVision investments; see Note 10 to our consolidated financial statements for specifics related to the valuation model and inputs utilized. One of the key inputs in the AvenCell model is the anticipated holding period to an exit and liquidity event. An increase in this input by 1 year would increase the value of the AvenCell investment by $5.7 million. A decrease in this input by 1 year would decrease the value of the AvenCell investment by $6.3 million.

In the SparingVision model, the key input is the internal rate of return. A 10% increase in this input would increase the value of the SparingVision investment by $0.8 million. A 10% decrease in this assumption would decrease the value of the SparingVision investment by $0.9 million.

Accrued Research and Development Expenses

As part of the process of preparing our financial statements, we are required to estimate our accrued expenses. This process involves reviewing open contracts and purchase orders, communicating with our personnel to identify services that have been performed on our behalf and estimating the level of service performed and the associated cost incurred for the service when we have not yet been invoiced or otherwise notified of the actual cost. The majority of our service providers invoice us monthly in arrears for services performed or when contractual milestones are met. We make estimates of our accrued expenses as of each balance sheet date in our financial statements based on facts and circumstances known to us at that time. Examples of estimated accrued research and development expenses include fees paid to vendors in connection with clinical research organizations ("CROs") in connection with clinical studies, vendors in connection with preclinical development activities and vendors related to development, manufacturing and distribution of clinical trial materials.

We base our expenses related to preclinical studies on our estimates of the services received and efforts expended pursuant to contracts with multiple CROs that conduct and manage clinical studies on our behalf. The financial terms of these agreements are subject to negotiation, vary from contract to contract and may result in uneven payment flows. There may be instances in which payments made to our vendors will exceed the level of services provided and result in a prepayment of the expense.

Equity-Based Compensation

We measure employee equity-based compensation based on the grant date fair value of the equity awards using the Black-Scholes option pricing model. Equity-based compensation expense is recognized on a straight-line basis over the requisite service period of the awards and is adjusted for pre-vesting forfeitures in the period in which the forfeitures occur. For equity awards that have a performance condition, we recognize stock-based compensation expense using the accelerated attribution method, based on our assessment of the probability that the performance condition will be achieved. Our stock price is a key input that will drive the grant date fair value of the equity awards.

We classify equity-based compensation expense in our consolidated statements of operations and comprehensive loss in the same manner in which the award recipient's salary and related costs are classified or in which the award recipient's service payments are classified.

Recent Accounting Pronouncements

Please read Note 2 to our consolidated financial statements included in Part IV, Item 15, "Notes to Consolidated Financial Statements," of this Annual report on Form 10-K for a description of recent accounting pronouncements applicable to our business.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

The market risk inherent in our financial instruments and in our financial position represents the potential loss arising from adverse changes in interest rates. As of December 31, 2021, we had cash equivalents, restricted cash equivalents and marketable securities of $1,087.3 million consisting of interest-bearing money market accounts, commercial paper, corporate and financial institution debt securities, U.S. Treasury securities and asset-backed securities. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because our investments are primarily in marketable securities. Due to the short-term duration of our investment portfolios and the low risk profile of our investments, we do not believe an immediate change of 100 basis points, or one percentage point, would have a material effect on the fair market value of our investment portfolio. Declines in interest rates, however, would reduce future investment income.

We do not have any foreign currency or derivative financial instruments. Inflation generally affects us by increasing our cost of labor, preclinical and clinical trial costs. We do not believe that inflation had a material effect on our results of operations during the year ended December 31, 2021.

Item 8. Financial Statements and Supplementary Data

The information required by this item is presented at the end of this report beginning on page F-1.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

The Company has established disclosure controls and procedures designed to ensure that information required to be disclosed in the reports that the Company files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and is accumulated and communicated to management, including the principal executive officer (our Chief Executive Officer) and principal financial officer (our Chief Financial Officer), to allow timely decisions regarding required disclosure.

Our management, under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this Annual Report on Form 10-K. Management recognizes that any disclosure controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives. Our disclosure controls and procedures have been designed to provide reasonable assurance of achieving their objectives. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of December 31, 2021.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) promulgated under the Exchange Act as a process designed by, or under the supervision of, the company's principal executive and principal financial officers and effected by the company's board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles and includes those policies and procedures that:

- Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the company;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2021. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control—Integrated Framework* (2013 framework) ("COSO"). Based on its assessment, management believes that, as of December 31, 2021, our internal control over financial reporting is effective based on those criteria.

Deloitte & Touche LLP, our independent registered public accounting firm, has issued an attestation report on the effectiveness of our internal control over financial reporting, which is included below.

Changes in Internal Controls over Financial Reporting

No change in the Company's internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the three months ended December 31, 2021 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of Intellia Therapeutics, Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Intellia Therapeutics, Inc. and subsidiary (the "Company") as of December 31, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2021, of the Company and our report dated February 24, 2022, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's 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 for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte & Touche LLP

Boston, Massachusetts
February 24, 2022

Item 9B. Other Information

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Certain information required by Part III is omitted from this Annual Report on Form 10-K and is incorporated by reference from our definitive proxy statement to be filed with the SEC with respect to our 2022 Annual Meeting of Stockholders, pursuant to Regulation 14A of the Securities Exchange Act of 1934, as amended, which we expect to file with the SEC no later than April 30, 2022.

Item 10. Directors, Executive Officers and Corporate Governance

Information regarding our directors, including the audit committee and audit committee financial experts, and executive officers and compliance with Section 16(a) of the Exchange Act will be included in our 2022 Proxy Statement and is incorporated herein by reference.

We have adopted a Code of Business Conduct and Ethics for all of our directors, officers and employees as required by Nasdaq governance rules and as defined by applicable SEC rules. Stockholders may locate a copy of our Code of Business Conduct and Ethics on our website at www.intelliatx.com or request a copy without charge from:

Intellia Therapeutics, Inc.
Attention: Investor Relations
40 Erie Street, Suite 130
Cambridge, MA 02139

We will post to our website any amendments to the Code of Business Conduct and Ethics, and any waivers that are required to be disclosed by the rules of either the SEC or Nasdaq.

Item 11. Executive Compensation

The information required by this item regarding executive compensation will be included in our definitive proxy statement to be filed with the SEC with respect to our 2022 Annual Meeting of Stockholders and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this item regarding security ownership of certain beneficial owners and management and securities authorized for issuance under equity compensation plans will be included in our definitive proxy statement to be filed with the SEC with respect to our 2022 Annual Meeting of Stockholders and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item regarding certain relationships and related transactions and director independence will be included in our definitive proxy statement to be filed with the SEC with respect to our 2022 Annual Meeting of Stockholders and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services

Information about aggregate fees billed to us by our independent principal accountant, Deloitte & Touche LLP (PCAOB ID No. 34), located in Boston, Massachusetts, will be presented in our definitive proxy statement to be filed with the SEC with respect to our 2022 Annual Meeting of Stockholders under the caption “Audit Committee Matters — Principal Accounting Firm Fees” and is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) The following documents are included in this Annual Report on Form 10-K:

1. The following Report and Consolidated Financial Statements of the Company are included in this Annual Report:

   Report of Independent Registered Public Accounting Firm (PCAOB ID No.34)

   Consolidated Balance Sheets

   Consolidated Statements of Operations and Comprehensive Loss

   Consolidated Statements of Stockholders' Equity

   Consolidated Statements of Cash Flows

   Notes to Consolidated Financial Statements

2. All financial schedules have been omitted because the required information is either presented in the consolidated financial statements or the notes thereto or is not applicable or required.

3. The exhibits required by Item 601 of Regulation S-K and Item 15(b) of this Annual Report on Form 10-K are listed in the Exhibit Index immediately preceding the signature page of this Annual Report on Form 10-K. The exhibits listed in the Exhibit Index are incorporated by reference herein.

Item 16. Form 10-K Summary

The Company has elected not to include summary information.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of Intellia Therapeutics, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Intellia Therapeutics, Inc. and subsidiary (the "Company") as of December 31, 2021 and 2020, the related consolidated statements of operations and comprehensive loss, stockholders' equity, and cash flows, for each of the three years in the period ended December 31, 2021, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 24, 2022, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the 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 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 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 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 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 financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Revenue Recognition – Collaboration Arrangements – Refer to Notes 2 and 9 to the financial statements and Investment Valuation – Refer to Notes 2, 4, and 10 to the financial statements.

Critical Audit Matter Description

The Company recognizes collaboration revenue on license and collaboration agreements as they satisfy performance obligations and transfer control of goods and services to the customer. During 2021, the Company entered into two new license and collaboration agreements with counterparties in exchange for a non-controlling equity ownership in each respective counterparty. This resulted in management applying judgments in determining the accounting for these arrangements. Specifically, management applied judgment in (1) identifying the performance obligations

within the arrangements and (2) measuring the arrangement consideration. Measuring the arrangement consideration required management to estimate the fair value of the equity interests received, which were equity interests in private entities that did not have readily determinable market values. The Company recognized $77.7 million of deferred revenue at the inception of the arrangements, which represented the fair value of the equity interests received.

Auditing the Company's accounting for revenues pertaining to the new arrangements required an increased extent of effort and a high degree of auditor judgment due to the complex and judgmental nature of evaluating the performance obligations included within the license and collaboration agreements. Additionally, given management used unobservable inputs to estimate the fair value of the equity interests received, performing audit procedures to evaluate these inputs required a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists.

How the Critical Audit Matter Was Addressed in the Audit

Our principal audit procedures related to the Company's revenue recognition and valuation of the equity interests received included the following, among others:

- We tested the effectiveness of controls over the Company's processes for assessing the accounting treatment of new collaboration agreements and controls over the valuation of the equity interests received.
- We obtained and read the contracts and other documents related to each arrangement.
- We tested management's identification of the promises for completeness, including the identification of distinct performance obligations. For each performance obligation identified, we held corroborative inquires with individuals involved in the negotiation of the agreement and those responsible for overseeing the arrangement to confirm our understanding of those performance obligations as well as the Company's assertions regarding whether those performance obligations are distinct or combined.
- We tested the fair value of the equity interests received in exchange for entering into each arrangement. For each equity interest received, and with the assistance of our fair value specialists, we evaluated the reasonableness of the (1) valuation methodology, (2) critical valuation and business assumptions and (3) tested the mathematical accuracy of the underlying valuations.

/s/ Deloitte & Touche LLP

Boston, Massachusetts
February 24, 2022

We have served as the Company's auditor since 2015.

INTELLIA THERAPEUTICS, INC.
CONSOLIDATED BALANCE SHEETS
(Amounts in thousands except share and per share data)

	December 31, 2021	December 31, 2020
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 123,406	$ 160,020
Marketable securities	625,282	437,351
Accounts receivable ($0.1 million and $0 million from related party)	2,031	2,130
Prepaid expenses and other current assets	18,584	17,016
Total current assets	769,303	616,517
Marketable securities - noncurrent	337,361	-
Property and equipment, net	20,968	15,943
Operating lease right-of-use assets	79,143	39,114
Equity method investment	58,131	-
Investments and other assets ($10.0 million and $0 million from related party)	29,558	4,748
Total Assets	$ 1,294,464	$ 676,322
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities:		
Accounts payable	$ 9,653	$ 10,460
Accrued expenses	43,309	25,554
Current portion of operating lease liability	9,112	5,696
Current portion of deferred revenue ($41.2 million and $0 million from related party)	63,759	22,544
Total current liabilities	125,833	64,254
Deferred revenue, net of current portion ($19.9 million and $0 million from related party)	63,476	51,387
Long-term operating lease liability	64,911	33,609
Commitments and contingencies (Note 8)		
Stockholders' Equity:		
Common stock, $0.0001 par value; 120,000,000 shares authorized; 74,485,883 and 66,234,056 shares issued and outstanding at December 31, 2021 and 2020, respectively	7	7
Additional paid-in capital	1,745,870	962,173
Accumulated other comprehensive (loss)/income	(2,632)	1
Accumulated deficit	(703,001)	(435,109)
Total stockholders' equity	1,040,244	527,072
Total Liabilities and Stockholders' Equity	$ 1,294,464	$ 676,322

See notes to consolidated financial statements.

INTELLIA THERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(Amounts in thousands except per share data)

	Year Ended December 31,		
	2021	2020	2019
Collaboration revenue [1]	$ 33,053	$ 57,994	$ 43,103
Operating expenses:			
Research and development	229,807	150,408	108,413
General and administrative	71,096	44,169	41,058
Total operating expenses	300,903	194,577	149,471
Operating loss	(267,850)	(136,583)	(106,368)
Other (expense) income, net:			
Loss from equity method investment	(1,325)	-	-
Interest income	1,283	2,352	6,835
Total other (expense) income, net	(42)	2,352	6,835
Net loss	$ (267,892)	$ (134,231)	$ (99,533)
Net loss per share, basic and diluted	$ (3.78)	$ (2.40)	$ (2.11)
Weighted average shares outstanding, basic and diluted	70,894	55,987	47,247
Other comprehensive (loss) income:			
Unrealized (loss) gain on marketable securities	(2,126)	(260)	289
Other comprehensive loss from equity method investment	(507)	-	-
Comprehensive loss	$ (270,525)	$ (134,491)	$ (99,244)
[1] Including the following revenue from related party (see Notes 9 and 15):	$ 6,072	$ -	$ -

See notes to consolidated financial statements.

INTELLIA THERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Amounts in thousands, except share data)

	Common		Additional	Accumulated Other		Total
	Shares	Amount	Paid-In Capital	Comprehensive (Loss) Income	Accumulated Deficit	Stockholders' Equity
Balance at December 31, 2018	45,224,480	$ 5	$ 478,968	$ (28)	$ (201,025)	$ 277,920
Retroactive adjustment to beginning accumulated deficit for adoption of ASC 842	-	-	-	-	(320)	(320)
Issuance of common stock through at-the-market offerings, net of issuance costs of $363	4,518,579	-	72,256	-	-	72,256
Exercise of stock options	364,404	-	3,086	-	-	3,086
Issuance of shares under employee stock purchase plan	90,581	-	1,092	-	-	1,092
Equity-based compensation	-	-	15,091	-	-	15,091
Other comprehensive income - unrealized gain on marketable securities	-	-	-	289	-	289
Net loss	-	-	-	-	(99,533)	(99,533)
Balance at December 31, 2019	50,198,044	5	570,493	261	(300,878)	269,881
Issuance of common stock through follow-on offerings, net of issuance costs of $669	11,815,069	2	296,605	-	-	296,607
Issuance of common stock to Regeneron	925,218	-	12,580	-	-	12,580
Issuance of common stock through at-the-market offerings, net of issuance costs of $151	2,270,161	-	49,461	-	-	49,461
Exercise of stock options	840,824	-	11,574	-	-	11,574
Vesting of restricted stock units	82,829	-	-	-	-	-
Issuance of shares under employee stock purchase plan	101,911	-	1,557	-	-	1,557
Equity-based compensation	-	-	19,903	-	-	19,903
Other comprehensive loss - unrealized loss on marketable securities	-	-	-	(260)	-	(260)
Net loss	-	-	-	-	(134,231)	(134,231)
Balance at December 31, 2020	66,234,056	7	962,173	1	(435,109)	527,072
Issuance of common stock through follow-on offerings, net of issuance costs of $284	4,758,620	-	648,315	-	-	648,315
Issuance of common stock through at-the-market offerings, net of issuance costs of $52	641,709	-	45,255	-	-	45,255
Exercise of stock options	2,700,886	-	41,094	-	-	41,094
Vesting of restricted stock units	119,715	-	-	-	-	-
Issuance of shares under employee stock purchase plan	30,897	-	2,024	-	-	2,024
Equity-based compensation	-	-	47,009	-	-	47,009
Other comprehensive loss - unrealized loss on marketable securities	-	-	-	(2,126)	-	(2,126)
Other comprehensive loss - equity method investment				(507)		(507)
Net loss	-	-	-	-	(267,892)	(267,892)
Balance at December 31, 2021	74,485,883	$ 7	$ 1,745,870	$ (2,632)	$ (703,001)	$ 1,040,244

INTELLIA THERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Amounts in thousands)

	Year Ended December 31,		
	2021	**2020**	**2019**
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net loss	$ (267,892)	$ (134,231)	$ (99,533)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	6,891	6,311	5,587
Equity-based compensation	47,009	19,903	15,091
Amortization/(accretion) of investment premiums/(discounts)	7,604	538	(3,725)
Loss from equity method investment	1,325	-	-
Deferral of equity method investment intra-entity profit on sales	2,937	-	-
Loss on disposal of property and equipment	-	35	1
Changes in operating assets and liabilities:			
Accounts receivable	99	2,490	2,927
Prepaid expenses and other current assets	(9,798)	(9,206)	(1,763)
Operating lease right-of-use assets	9,349	6,457	5,728
Other assets	117	83	153
Accounts payable	529	5,060	1,880
Accrued expenses	17,260	13,031	2,310
Deferred revenue	(31,355)	45,121	(27,122)
Operating lease liabilities	(9,105)	(5,504)	(4,774)
Net cash used in operating activities	(225,030)	(49,912)	(103,240)
CASH FLOWS FROM INVESTING ACTIVITIES:			
Purchases of property and equipment	(12,756)	(3,585)	(6,794)
Purchases of marketable securities	(1,020,620)	(473,702)	(297,030)
Maturities of marketable securities	485,598	262,800	329,000
Investment in Kyverna Therapeutics, Inc.	(3,000)	-	-
Net cash (used in) provided by investing activities	(550,778)	(214,487)	25,176
CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from issuance of common stock through follow-on offerings, net of issuance costs	648,315	296,607	-
Proceeds from issuance of common stock through at-the-market offerings, net of issuance costs	45,255	49,461	72,256
Proceeds from issuance of common stock to Regeneron Pharmaceuticals, Inc.	-	12,580	-
Proceeds from options exercised	41,094	11,574	3,086
Issuance of shares through employee stock purchase plan	2,024	1,557	1,092
Net cash provided by financing activities	736,688	371,779	76,434
Net (decrease) increase in cash and cash equivalents and restricted cash equivalents	(39,120)	107,380	(1,630)
Cash and cash equivalents and restricted cash equivalents, beginning of period	164,606	57,226	58,856
Cash and cash equivalents and restricted cash equivalents, end of period	$ 125,486	$ 164,606	$ 57,226
Reconciliation of cash and cash equivalents and restricted cash equivalents to consolidated balance sheet:			
Cash and cash equivalents	$ 123,406	$ 160,020	$ 57,226
Restricted cash equivalents, included in investments and other assets	2,080	4,586	-
Total cash and cash equivalents and restricted cash equivalents	$ 125,486	$ 164,606	$ 57,226
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:			
Purchases of property and equipment unpaid at period end	$ 667	$ 1,508	$ 800
Right-of-use assets acquired under operating leases	49,378	26,432	2,554
Non-cash contribution of intellectual property to AvenCell Therapeutics, Inc.	62,900	-	-
Non-cash contribution of intellectual property to SparingVision SAS	14,759	-	-
Non-cash contribution of intellectual property to Kyverna Therapeutics, Inc.	7,000	-	-

See notes to consolidated financial statements.

1. The Company

Intellia Therapeutics, Inc. ("Intellia" or the "Company") is a leading clinical-stage genome editing company, focused on developing novel, potentially curative CRISPR/Cas9-based therapeutics. CRISPR/Cas9, an acronym for Clustered, Regularly Interspaced Short Palindromic Repeats ("CRISPR")/CRISPR associated 9 ("Cas9"), is a technology for genome editing, the process of altering selected sequences of genomic deoxyribonucleic acid ("DNA"). To realize the transformative potential of CRISPR/Cas9-based technologies, Intellia is building a full-spectrum genome editing company, by leveraging its modular platform, to advance *in vivo* and *ex vivo* therapies for diseases with high unmet need. For the Company's *in vivo* programs to address genetic diseases, intravenously administered CRISPR is used as the therapy, in which the Company's proprietary delivery technology enables highly precise editing of disease-causing genes directly within specific target tissues. For the Company's *ex vivo* programs to address immuno-oncology and autoimmune diseases, CRISPR is used to create the therapy by engineering cells outside of the body. The Company's deep scientific, technical and clinical development experience, along with its robust intellectual property ("IP") portfolio, enables it to unlock broad therapeutic applications of CRISPR/Cas9 and related technologies to create new classes of genetic medicine.

The Company was founded and commenced active operations in mid-2014. The Company will require substantial additional capital to fund its research and development. The Company is subject to risks and uncertainties common to early stage companies in the biotechnology industry, including, but not limited to, development by competitors of more advanced or effective therapies, dependence on key executives, protection of and dependence on proprietary technology, compliance with government regulations and ability to secure additional capital to fund operations. Programs currently in development or moving into development will require significant additional research and development efforts, including preclinical and clinical testing and regulatory approval prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel and infrastructure and extensive compliance-reporting capabilities. Even if the Company's product development efforts are successful, it is uncertain when, if ever, the Company will realize significant revenue from product sales.

Liquidity

Since its inception through December 31, 2021, the Company has raised an aggregate of $1,817.9 million to fund its operations through its initial public offering ("IPO") and concurrent private placements, follow-on public offerings, at-the-market offerings and the sale of convertible preferred stock, as well as through its collaboration agreements. The Company expects that its cash, cash equivalents and marketable securities as of December 31, 2021 will enable the Company to fund its ongoing operating expenses and capital expenditure requirements for at least the twelve-month period following the issuance of these consolidated financial statements.

2. Summary of Significant Accounting Policies

Basis of Presentation

The consolidated financial statements include the accounts of Intellia Therapeutics, Inc. and its wholly owned, controlled subsidiary, Intellia Securities Corp. All intercompany balances and transactions have been eliminated in consolidation. Comprehensive loss is comprised of net loss and gain/loss on marketable securities and equity method investments.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP") requires management to make estimates, judgments and assumptions that affect the amounts reported in the financial statements and accompanying notes. Significant estimates in these consolidated financial statements have been made in connection with the calculation of revenues, research and development expenses, valuation of equity and fair value method investments, and equity-based compensation expense. The Company bases its estimates on historical experience and various other assumptions that management believes to be reasonable under the circumstances at the time such estimates are made. Actual results could differ from those estimates. The Company periodically reviews its estimates in light of changes in circumstances, facts and experience.

The extent of the impact of the coronavirus disease 19 (“COVID-19”) pandemic on the Company’s operational and financial performance will depend on certain developments, including the length and severity of this pandemic, as well as its effect on the Company's employees, collaborators and vendors, all of which are uncertain and cannot be predicted. The Company cannot reasonably estimate the extent to which the disruption may materially impact its consolidated results of operations or financial position.

The effects of material revisions in estimates are reflected in the consolidated financial statements prospectively from the date of the change in estimate.

Fair Value Measurements

The Company’s financial instruments include cash equivalents, marketable securities, accounts receivable, accounts payable and accrued expenses. Certain of the Company’s financial assets, including cash equivalents and marketable securities, have been initially valued at the transaction price, and subsequently revalued at the end of each reporting period, utilizing third-party pricing services or other observable market data. The pricing services utilize industry standard valuation models and observable market inputs to determine value.

Refer to Note 4 for further information regarding the Company’s fair value measurements.

Other financial instruments, including accounts receivable, accounts payable and accrued expenses, are carried at cost, which approximate fair value due to the short duration and term to maturity.

Cash Equivalents

The Company considers all highly liquid investments with maturities of three months or less when purchased to be cash equivalents. As of December 31, 2021 and 2020, cash equivalents consisted of interest-bearing money market accounts.

Restricted Cash Equivalents

The Company has restricted cash equivalents made up of money market funds held in collateral accounts that are restricted to secure letters of credit in accordance with the leases for 281 Albany Street and 17 Tudor Street, which the Company entered into in March of 2020 and July of 2021, respectively (see Note 11). The letters of credit, in the amount of $1.9 million and $0.2 million, respectively, are required to be maintained throughout the term of the leases. These restricted cash equivalents are long-term in nature and are included in “Investments and other assets” in the Company’s consolidated balance sheets.

The Company has also received funds from certain grants that were restricted as to their use and were therefore classified as restricted cash equivalents. These funds amounted to approximately $2.7 million as of December 31, 2020 and were used in full prior to December 31, 2021. Accordingly, these funds were included in “Prepaid expenses and other current assets” in the Company’s consolidated balance sheet for the period ended December 31, 2020.

Marketable Securities

The Company’s marketable securities are accounted for as available-for-sale and recorded at fair value with the related unrealized gains and losses included in accumulated other comprehensive (loss)/income, a component of stockholders’ equity.

The Company reviews its investment portfolio to identify and evaluate investments that have an indication of possible other-than-temporary impairment. Factors considered in determining whether a loss is other-than-temporary include the length of time and extent to which fair value has been less than the cost basis, the financial condition and near-term prospects of the investee, and the Company’s intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in market value.

Refer to Note 3 for further information regarding the Company’s marketable securities.

Non-Marketable Equity Securities

The Company also invests in equity securities of companies whose securities are not publicly traded and where fair value is not readily available. These investments are accounted for using the measurement alternative at cost minus impairment adjusted for changes in observable prices. The Company monitors these investments to evaluate whether any increase or decline in their value has occurred, based on the implied value of recent company financings and general market conditions, or if the investment has a readily determinable fair value. These investments are included in "Investments and other assets" in the Company's consolidated balance sheets. Refer to Note 10 for further information regarding the Company's investments in non-marketable equity securities.

Concentrations of Credit Risk

The Company's cash, cash equivalents and marketable securities may potentially be subject to concentrations of credit risk. The Company generally maintains balances in various accounts in excess of federally insured limits with financial institutions that management believes to be of high credit quality.

Accounts receivable represents amounts due from collaboration partners and joint ventures. The Company monitors economic conditions to identify facts or circumstances that may indicate that any of its accounts receivable are at risk of collection. As of December 31, 2021, the Company's accounts receivable were related to its collaborations with Regeneron Pharmaceuticals, Inc. ("Regeneron") and AvenCell Therapeutics, Inc. ("AvenCell"), a new universal chimeric antigen receptor T ("CAR-T") cell therapy joint venture and privately held company established by the Company, Cellex Cell Professionals GmbH ("Cellex") and funds managed by Blackstone Life Sciences Advisors L.L.C. ("BXLS"). As of December 31, 2020, Regeneron accounted for all of the Company's accounts receivable.

Property and Equipment

The Company records property and equipment at cost and recognizes depreciation and amortization using the straight-line method over the following estimated useful lives of the respective assets:

Asset Category	Useful Life
Laboratory equipment	5 years
Office furniture and equipment	5 years
Computer software	3 years
Computer equipment	3 years
Leasehold improvements	5 years or term of respective lease, if shorter

Expenditures for repairs and maintenance of assets are expensed as incurred. Upon retirement or sale, the cost of assets disposed and the corresponding accumulated depreciation are removed from the related accounts and any resulting gain or loss is reflected in the results of operations.

Impairment of Long-Lived Assets

The Company tests long-lived assets to be held and used, including property and equipment, for impairment whenever events or changes in circumstances indicate that the carrying amount of assets or asset groups may not be fully recoverable. Factors that the Company considers in deciding when to perform an impairment review include significant underperformance of the business in relation to expectations, significant negative industry or economic trends and significant changes or planned changes in the use of the assets.

Evaluation of recoverability of the asset or asset group is based on an estimate of undiscounted future cash flows resulting from the use of the asset or asset group and its eventual disposition. In the event that such cash flows are not expected to be sufficient to recover the carrying amount of the asset or asset group, the assets are written down to their estimated fair values. The impairment loss would be based on the excess of the carrying value of the impaired asset over its fair value, determined based on discounted cash flows. To date, the Company has not recorded any material impairment losses on long-lived assets.

Income Taxes

The Company accounts for income taxes using the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences attributable to differences between carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax reporting purposes and for operating loss and tax credit carryforwards. Changes in deferred tax assets and liabilities are recorded in the provision for income taxes.

The Company's deferred tax assets and liabilities are measured using enacted tax rates expected to apply in the years in which these temporary differences are expected to be recovered or settled. A valuation allowance is recorded to reduce deferred tax assets if it is determined that it is more likely than not that all or a portion of the deferred tax asset will not be realized. The Company considers many factors when assessing the likelihood of future realization of deferred tax assets, including recent earnings results, expectations of future taxable income, carryforward periods available and other relevant factors. The Company records changes in the required valuation allowance in the period that the determination is made.

The Company assesses its income tax positions and records tax benefits for all years subject to examination based upon management's evaluation of the facts, circumstances and information available as of the reporting date. For those tax positions where it is more likely than not that a tax benefit will be sustained, the Company records the largest amount of tax benefit with a greater than 50% likelihood of being realized upon ultimate settlement with a taxing authority having full knowledge of all relevant information. For those income tax positions where it is not more likely than not that a tax benefit will be sustained, the Company does not recognize a tax benefit in the financial statements. The Company records interest and penalties related to uncertain tax positions, if applicable, as a component of income tax expense.

Revenue Recognition

The Company recognizes revenue in accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Update ("ASU") 2014-09, *Revenue from Contracts with Customers (Topic 606)* and its related amendments (collectively known as Accounting Standard Codification ("ASC") 606 ("ASC 606").

At inception, the Company determines whether contracts are within the scope of ASC 606 or other topics. For contracts that are determined to be within the scope of ASC 606, revenue is recognized when a customer obtains control of promised goods or services. The amount of revenue recognized reflects the consideration to which the Company expects to be entitled to receive in exchange for these goods and services. To achieve this core principle, the Company applies the following five steps: (i) identify the contract with the customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (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 only applies the five-step model to contracts when the Company determines that collection of substantially all consideration for goods and services that are transferred is probable based on the customer's intent and ability to pay the promised consideration.

Performance obligations promised in a contract are identified based on the goods and services that will be transferred to the customer that are both capable of being distinct and are distinct in the context of the contract. To the extent a contract includes multiple promised goods and services, the Company applies judgment to determine whether promised goods and services are both capable of being distinct and distinct in the context of the contract. If these criteria are not met, the promised goods and services are accounted for as a combined performance obligation.

The transaction price is determined based on the consideration to which the Company will be entitled in exchange for transferring goods and services to the customer. To the extent the transaction price includes variable consideration, the Company estimates the amount of variable consideration that should be included in the transaction price utilizing either the expected value method or the most likely amount method, depending on the nature of the variable consideration. Variable consideration is included in the transaction price if, in the Company's judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur. Any estimates, including the effect of the constraint on variable consideration, are evaluated at each reporting period for any changes. Determining the transaction price requires significant judgment, which is discussed in further detail for each of the Company's collaboration agreements in Note 9. In addition, none of the Company's contracts as of December 31, 2021 contained a significant financing component.

If the contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. Contracts that contain multiple performance obligations require an allocation of the transaction price to each performance obligation on a relative standalone selling price basis unless the transaction price is variable and meets the criteria to be allocated entirely to a performance obligation or to a distinct service that forms part of a single performance obligation. The consideration to be received is allocated among the separate performance obligations based on relative standalone selling prices. The Company typically determines standalone selling prices using an adjusted market assessment approach model.

The Company satisfies performance obligations either over time or at a point in time. Revenue is recognized over time if either (i) the customer simultaneously receives and consumes the benefits provided by the entity's performance, (ii) the entity's performance creates or enhances an asset that the customer controls as the asset is created or enhanced, or (iii) the entity's performance does not create an asset with an alternative use to the entity and the entity has an enforceable right to payment for performance completed to date. If the entity does not satisfy a performance obligation over time, the related performance obligation is satisfied at a point in time by transferring the control of a promised good or service to a customer. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition.

As of December 31, 2021, the Company's only revenue recognized is related to collaboration agreements with third parties which are either within the scope of ASC 606, under which the Company licenses certain rights to its product candidates to third parties, or within the scope of ASC 808, *Collaborative Arrangements* ("ASC 808") if it involves a joint operating activity pursuant to which the Company is an active participant and is exposed to significant risks and rewards with respect to the arrangement. For the collaboration arrangements under the scope of ASC 606, as discussed in further detail in Note 9, the terms of these arrangements typically include payment to the Company of one or more of the following: nonrefundable, upfront fees; development, regulatory, and commercial milestone payments; research and development funding payments; and royalties on the net sales of licensed products. Additionally, the terms of certain arrangements may include an equity interest in the other company. Each of these payments results in collaboration revenues, except for revenues from royalties on the net sales of licensed products, which are classified as royalty revenues. For arrangements within the scope of ASC 808, the terms of these arrangements typically include payments received or made under the cost sharing provisions which are recognized as a component of revenues in the consolidated statements of operations and comprehensive loss.

Licenses of intellectual property: If the license to the Company's IP is determined to be distinct from the other performance obligations identified in the arrangement, the Company recognizes revenues from consideration allocated to the license when the license is transferred to the customer and the customer is able to use and benefit from the licenses. For licenses that are combined with other promises, the Company utilizes 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 and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue.

Milestone payments: At the inception of each arrangement that includes development milestone payments, the Company evaluates the probability of reaching the milestones and estimates the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal would not occur in the future, the associated milestone value is included in the transaction price. Milestone payments that are not within the control of the Company or the licensee, such as regulatory approvals, are not considered probable of being achieved until those approvals are received and therefore revenue recognized is constrained as management is unable to assert that a reversal of revenue would not be probable. The transaction price is then allocated to each performance obligation on a relative standalone selling price basis, for which the Company recognizes revenue as or when the performance obligations under the contract are satisfied. At the end of each subsequent reporting period, the Company re-evaluates the probability of achievement of such development milestones and any related constraint and, if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect collaboration revenues and earnings in the period of adjustment.

Royalties: For arrangements that include sales-based royalties, including milestone payments based on levels of sales, if the license is deemed to be the predominant item to which the royalties relate, the Company recognizes revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied). To date, the Company has not recognized any royalty revenue resulting from any of its collaboration agreements.

The Company receives payments from its customers based on billing schedules or upon the achievement of milestones established in each contract. The Company's contract liabilities consist of deferred revenue. Upfront payments and fees are recorded as deferred revenue upon receipt or when due and may require deferral of revenue recognition to a future period until the Company satisfies its obligations under these arrangements.

The Company also considers the nature and contractual terms of an arrangement and assesses whether the arrangement involves a joint operating activity pursuant to which the Company is an active participant and is exposed to significant risks and rewards with respect to the arrangement. If the Company is an active participant and is exposed to the significant risks and rewards with respect to the arrangement, the Company accounts for the arrangement under ASC 808. Based on this consideration, the Company accounts for its co-development and co-promotion ("Co/Co") Agreements with Regeneron and AvenCell under ASC 808. Because ASC 808 does not provide recognition and measurement guidance for collaborative arrangements, the Company has analogized to ASC 606. Refer to Note 9 for additional information regarding the Company's collaboration agreements.

Research and Development Expenses

Research and development costs are expensed as incurred. Research and development expenses consist of expenses incurred in performing research and development activities, such as salaries, equity-based compensation and benefits of employees, allocated facility-related expenses, overhead expenses, license, sublicense and milestone fees, contract research, clinical trial costs, development and manufacturing services, and other related costs.

The Company records payments made for research and development services prior to the services being rendered as prepaid expenses on the consolidated balance sheet and expenses them as the services are provided. Contracts for multi-year research and development services are recorded on a straight-line basis over each annual contractual period based on the total contractual fee when the services rendered are expected to be substantially equivalent over the term of the arrangement. The cost of obtaining licenses for certain technology or IP is recorded to research and development expense when incurred if the licensed technology or IP has not yet reached technological feasibility and has no alternative future use.

Equity-Based Compensation

The Company measures employee equity-based compensation based on the grant date fair value of the equity awards using the Black-Scholes option pricing model. Equity-based compensation expense is recognized on a straight-line basis over the requisite service period of the awards and is adjusted for pre-vesting forfeitures in the period in which the forfeitures occur. For equity awards that have a performance condition, the Company recognizes stock-based compensation expense using the accelerated attribution method, based on its assessment of the probability that the performance condition will be achieved.

The Company classifies equity-based compensation expense in its consolidated statement of operations and comprehensive loss in the same manner in which the award recipient's salary and related costs are classified or in which the award recipient's service payments are classified.

(Loss) Earnings per Share

The Company calculates basic (loss) earnings per share by dividing net (loss) income for each respective period by the weighted average number of common shares outstanding for each respective period. The Company computes diluted (loss) earnings per share after giving consideration to the dilutive effect of stock options and unvested restricted stock that are outstanding during the period, except where such securities would be anti-dilutive.

Segment Information

The Company manages its operations as a single segment for the purposes of assessing performance and making operating decisions. The Company's one business segment is the development of genome editing-based therapies. All of the Company's assets are held in the U.S. and all of the Company's revenue has been generated in the U.S.

Variable Interest Entity

The Company evaluates at the inception of each arrangement, and whenever a reconsideration event occurs, whether an entity in which the Company holds an investment or in which the Company has other variable interests is considered a variable interest entity ("VIE") in accordance with FASB ASC *Topic 810, Consolidation* ("ASC 810"). If the entity meets the criteria to qualify as a VIE, the Company assesses whether or not the Company is the primary beneficiary of that VIE based on a number of factors, including (i) which party has the power to direct the activities that most significantly affect the VIE's economic performance, (ii) the parties' contractual rights and responsibilities pursuant to any contractual agreements and (iii) which party has the obligation to absorb losses or the right to receive benefits from the VIE. If the Company is deemed the primary beneficiary of a VIE, the Company consolidates such entity and reflects the non-controlling interest of other beneficiaries of that entity. If the Company is not the primary beneficiary, no consolidation is necessary, and the Company accounts for the investment or other variable interest in accordance with applicable U.S. GAAP.

Equity Method of Accounting

In circumstances where the Company has the ability to exercise significant influence, but not control, over the operating and financial policies of an entity in which the Company has a common stock or in-substance common stock investment, the Company utilizes the equity method of accounting for recording related investment activity. In assessing whether the Company exercises significant influence, the Company considers the nature and magnitude of the investment, the voting and protective rights the Company holds, any participation in the governance of the other entity and other relevant factors such as the presence of a collaborative or other business relationship.

Under the equity method of accounting, the Company's investments are initially recorded at cost on the consolidated balance sheets. Upon recording an equity method investment, the Company evaluates whether there are basis differences between the carrying value and fair value of the Company's proportionate share of the investee's underlying net assets. Typically, the Company amortizes basis differences identified on a straight-line basis over the underlying assets' estimated useful lives when calculating the attributable earnings or losses, excluding the basis differences attributable to in-process research and development ("IPR&D") that has no alternative future use. If the Company is unable to attribute all of the basis difference to specific assets or liabilities of the investee, the residual excess of the cost of the investment over the proportional fair value of the investee's assets and liabilities is considered to be Equity Method Goodwill and is recognized within the equity investment balance, which is tracked separately within the Company's memo accounts. The Company subsequently records in the consolidated statements of operations and comprehensive loss its share of income or loss of the other entity within other income/expense. If the share of losses exceeds the carrying value of the Company's investment, the Company will suspend recognizing additional losses and will continue to do so unless it commits to providing additional funding; however, if there are intra-entity profits this can cause the investment balance to go negative.

The Company evaluates its equity method investments for impairment whenever events or changes in circumstance indicate that the carrying amounts of such investments may be impaired and considers qualitative and quantitative factors including the investee's financial metrics, product and commercial outlook and cash usage. If a decline in the value of an equity method investment is determined to be other than temporary, a loss is recorded in earnings in the current period and the investment is written down to fair value.

At December 31, 2021, the Company accounted for its investment in AvenCell under the equity method of accounting and no impairment charges were recognized during the year ended December 31, 2021. Refer to Note 10 for further details.

Recent Accounting Pronouncements – Adopted

In December 2019, the FASB issued ASU 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes* ("ASU 2019-12"), which is intended to simplify the accounting for income taxes. ASU 2019-12 removes certain exceptions to the general principles in Topic 740 and also clarifies and amends existing guidance to improve consistent application. The Company adopted ASU 2019-12 on January 1, 2021. The adoption did not have a material effect on the Company's consolidated financial statements.

3. Marketable Securities

The following table summarizes the Company's available-for-sale marketable securities as of December 31, 2021 and 2020 at net book value:

	December 31, 2021			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
	(In thousands)			
Marketable securities:				
U.S. Treasury and other government securities	$ 301,493	$ -	$ (1,016)	$ 300,477
Financial institution debt securities	441,068	-	(652)	440,416
Corporate debt securities	62,500	-	(151)	62,349
Other asset-backed securities	159,707	-	(306)	159,401
Total	$ 964,768	$ -	$ (2,125)	$ 962,643

	December 31, 2020			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
	(In thousands)			
Marketable securities:				
U.S. Treasury and other government securities	$ 245,666	$ 13	$ (11)	$ 245,668
Financial institution debt securities	138,445	6	(8)	138,443
Corporate debt securities	41,765	3	(2)	41,766
Other asset-backed securities	11,474	1	(1)	11,474
Total	$ 437,350	$ 23	$ (22)	$ 437,351

The amortized cost of available-for-sale securities is adjusted for amortization of premiums and accretion of discounts to maturity. At December 31, 2021 and 2020, the balance in the Company's accumulated other comprehensive (loss)/income was composed of activity related to the Company's available-for-sale marketable securities and equity method investment. There were no material realized gains or losses in the years ended December 31, 2021, 2020 or 2019. The Company did not reclassify any amounts out of accumulated other comprehensive income during these periods. The Company generally does not intend to sell any investments prior to recovery of their amortized cost basis for any investment in an unrealized loss position. As such, the Company has classified these losses as temporary in nature.

The Company's available-for-sale securities that are classified as short-term marketable securities in the consolidated balance sheet mature within one year or less as of the balance sheet date. Available-for-sale securities that are classified as noncurrent in the consolidated balance sheet are those that mature after one year but within five years from the balance sheet date and that the Company does not intend to dispose of within the next twelve months. At December 31, 2021 and 2020, the Company did not hold any investments that matured beyond five years of the balance sheet date.

4. Fair Value Measurements

The Company classifies fair value-based measurements using a three-level hierarchy that prioritizes the inputs used to measure fair value. This hierarchy requires entities to maximize the use of observable inputs and minimize the use of unobservable inputs. The three levels of inputs used to measure fair value are as follows: Level 1, quoted market prices in active markets for identical assets or liabilities; Level 2, observable inputs other than quoted market prices included in Level 1, such as quoted market prices for markets that are not active or other inputs that are observable or can be corroborated by observable market data; and Level 3, unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities, including certain pricing models, discounted cash flow methodologies and similar techniques that use significant unobservable inputs.

As of December 31, 2021 and 2020, the Company’s financial assets recognized at fair value on a recurring basis consisted of the following:

	Fair Value as of December 31, 2021			
	Total	Level 1	Level 2	Level 3
	(In thousands)			
Cash equivalents and restricted cash equivalents	$ 124,636	$ 124,636	$ -	$ -
Marketable securities:				
U.S. Treasury and other government securities	300,477	280,085	20,392	-
Financial institution debt securities	440,416	-	440,416	-
Corporate debt securities	62,349	-	62,349	-
Other asset-backed securities	159,401	-	159,401	-
Total marketable securities	962,643	280,085	682,558	-
Total	$ 1,087,279	$ 404,721	$ 682,558	$ -

	Fair Value as of December 31, 2020			
	Total	Level 1	Level 2	Level 3
	(In thousands)			
Cash equivalents and restricted cash equivalents	$ 163,805	$ 163,805	$ -	$ -
Marketable securities:				
U.S. Treasury and other government securities	245,668	241,664	4,004	-
Financial institution debt securities	138,443	-	138,443	-
Corporate debt securities	41,766	-	41,766	-
Other asset-backed securities	11,474	-	11,474	-
Total marketable securities	437,351	241,664	195,687	-
Total	$ 601,156	$ 405,469	$ 195,687	$ -

Certain of the Company’s financial assets, including cash equivalents and marketable securities, have been initially valued at the transaction price, and subsequently revalued at the end of each reporting period, utilizing third-party pricing services or other observable market data. The pricing services utilize industry standard valuation models and observable market inputs to determine value. After completing its validation procedures, the Company did not adjust or override any fair value measurements provided by the pricing services as of December 31, 2021 or 2020.

The Company's investment in AvenCell was recorded at fair value, determined according to Level 3 inputs in the fair value hierarchy described above. Refer to Note 10 for further details.

The Company's investment in SparingVision SAS (“SparingVision”) was recorded at fair value, determined according to Level 3 inputs in the fair value hierarchy described above. The Company's investment in Kyverna Therapeutics, Inc. (“Kyverna”) was recorded at cost, which is representative of fair value. Refer to Note 10 for further details. The

SparingVision and Kyverna investments (the "investments") are included in "Investments and other assets" on the consolidated balance sheet. There were no changes in observable prices of these investments as of December 31, 2021.

5. Property and Equipment, Net

Property and equipment, net consisted of the following:

	December 31,	
	2021	2020
	(In thousands)	
Laboratory equipment	$ 39,840	$ 30,438
Office furniture and equipment	2,186	1,181
Computer equipment	1,318	1,076
Leasehold improvements	2,188	1,520
Computer software	1,550	1,059
Total property and equipment	47,082	35,274
Less: accumulated depreciation and amortization	(26,114)	(19,331)
Property and equipment, net	$ 20,968	$ 15,943

Depreciation and amortization expense was $6.9 million, $6.3 million and $5.6 million for the years ended December 31, 2021, 2020 and 2019, respectively.

6. Accrued Expenses

Accrued expenses consisted of the following:

	December 31,	
	2021	2020
	(In thousands)	
Employee compensation and benefits	$ 20,359	$ 10,920
Accrued research and development	16,979	11,008
Accrued legal and professional expenses	3,100	1,876
Accrued other	2,871	1,750
Total accrued expenses	$ 43,309	$ 25,554

7. Income Taxes

The Company did not record net income tax benefits for the operating losses incurred during the periods presented due to the uncertainty of realizing a tax benefit from those losses. Accordingly, any benefit recorded related to these deferred tax assets was offset by a valuation allowance reflecting management's conclusion that realization of those assets was not more likely than not.

A reconciliation of the federal statutory income tax rate and the Company's effective income tax rate is as follows:

	Year Ended December 31,		
	2021	2020	2019
Federal statutory income tax rate	(21.0)%	(21.0)%	(21.0)%
State income taxes	(16.6)	(7.4)	(8.9)
Research and development tax credits	(8.7)	(1.8)	(5.1)
Stock-based compensation	(16.8)	(1.3)	1.2
162m	0.2	-	-
Change in valuation allowance	62.9	31.5	33.8
Effective income tax rate	—%	—%	—%

The Company's net deferred tax assets (liabilities) consisted of the following:

	December 31,	
	2021	2020
	(in thousands)	
Deferred tax assets:		
Intangibles, including acquired in-process research and development	$ 1,010	$ 981
Capitalized start-up costs	334	378
Net operating loss carryforwards	216,629	101,807
Research and development credit carryforwards	61,698	23,166
Operating lease liability	20,055	10,713
Deferred revenue	13,922	4,680
Equity-based compensation	7,774	8,574
Accruals and allowances	3,718	2,200
Prepaid rent	1,393	-
Equity investment adjustments	359	-
Gross deferred tax assets	326,892	152,499
Deferred tax asset valuation allowance	(304,781)	(140,868)
Total deferred tax assets	22,111	11,631
Deferred tax liabilities:		
Fixed assets	(669)	(970)
Operating lease right-of-use assets	(21,442)	(10,661)
Total deferred tax liabilities	(22,111)	(11,631)
Net deferred tax asset (liability)	$ -	$ -

As of December 31, 2021 and 2020, the Company had federal net operating loss carryforwards of $800.5 million and $372.5 million, respectively, which may be available to offset future income tax liabilities.

Approximately $37.2 million of the federal net operating losses generated prior to 2018 will begin to expire in 2034, unless previously utilized. Losses incurred prior to 2018 will generally be deductible to the extent of the lesser of a corporation's net operating loss carryover or 100% of a corporation's taxable income and be available for twenty years from the period the loss was generated. The federal net operating losses generated after 2017 of approximately $763.3 million will be carried over indefinitely, but will generally limit the net operating loss deduction to the lesser of the net operating loss carryforward or 80% of a corporation's taxable income (subject to Section 382 of the Internal Revenue Code of 1986, as amended). Also, there will be no carryback for losses incurred after 2017.

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act, (the "CARES Act") was enacted in the U.S. The CARES Act temporarily removes the 80% limit for taxable years beginning before 2021 to allow an net operating loss carryforward to fully offset an organization's income. The CARES Act allows a five-year carryback of any net operating loss generated in a taxable year beginning after December 31, 2017, and before January 1, 2021. The impact of the CARES Act was not material to the Company.

As of December 31, 2021 and 2020, the Company also had state net operating loss carryforwards of $767.8 million and $373.1 million, respectively, which may be available to offset future income tax liabilities and begin to expire in 2034.

As of December 31, 2021 and 2020, the Company had federal tax credit carryforwards of approximately $37.9 million and $15.0 million, respectively, which begin to expire in 2034. As of December 31, 2021 and 2020, the Company had state research and development and other credit carryforwards of approximately $30.2 million and $10.3 million, which begin to expire in 2029.

The Company evaluated the expected realizability of its net deferred tax assets and determined that there was significant negative evidence due to its net operating loss position and insufficient positive evidence to support the realizability of these net deferred tax assets. The Company concluded it is more likely than not that its net deferred

tax assets would not be realized in the future; therefore, the Company has provided a full valuation allowance against its net deferred tax asset balance as of December 31, 2021 and 2020. The valuation allowance increased by $163.9 million in 2021, $42.4 million in 2020, $34.5 million in 2019.

Utilization of the net operating loss and research and development credit carryforwards may be subject to a substantial annual limitation under Section 382 of the Internal Revenue Code of 1986, as amended, due to ownership changes that have occurred previously or that could occur in the future. These ownership changes may limit the amount of net operating loss and research and development credit carryforwards that can be utilized annually to offset future taxable income and tax expense, respectively. The Company has not yet conducted a study to assess whether a change of control, as defined in Section 382, has occurred or whether there have been multiple changes in control since inception, due to the significant cost and complexity associated with such a study. Any limitation may result in expiration of a portion of the net operating loss carryforward or research credit carryforward before utilization. A full valuation allowance has been provided against the Company's net operating loss and tax credit carryforwards and, if an adjustment is required, this adjustment would be offset by an adjustment to the valuation allowance. Thus, there would be no impact to the balance sheet or statement of operations if an adjustment is required.

As of December 31, 2021, the Company had not identified any unrecognized tax benefits. The Company files income tax returns in the U.S. federal tax jurisdiction and Massachusetts and various other state tax jurisdictions. The Company is subject to examination by the Internal Revenue Service, Massachusetts taxing authorities and state taxing authorities for tax year 2018 through present. The returns in these jurisdictions since inception remain open for examination; however, there are currently no pending tax examinations. The Company will recognize interest and/or penalties related to uncertain tax benefits in income tax expense if they arise.

8. Commitments and Contingencies

Caribou Arbitration

On October 17, 2018, the Company initiated an arbitration proceeding against Caribou Biosciences, Inc. ("Caribou") asserting that Caribou violated the terms and conditions of a license agreement the Company entered into with them in July 2014 related to certain IP (the "Caribou License"), as well as other contractual and legal obligations to the Company, by using and seeking to license to third parties two patent families relating to specific structural or chemical modifications of guide RNAs ("gRNAs"), that were purportedly invented or controlled by Caribou, in the Company's exclusive human therapeutic field, before an agreed-upon cutoff date of January 30, 2018.

On September 26, 2019, the Company announced that the arbitration panel issued an interim award concluding that both the structural and chemical gRNA modification technologies were exclusively licensed to the Company by Caribou pursuant to the Caribou License. Nevertheless, the arbitration panel, solely with respect to the clinically modified gRNAs, stated that it will declare that Caribou has an equitable "leaseback", which it described as exclusive, perpetual and worldwide (the "Caribou Award"). The Caribou Award does not include the structural guide modifications IP also at issue in the arbitration, any other IP exclusively licensed or sublicensed by Caribou to the Company under the Caribou License (including but not limited to the foundational CRISPR/Cas9 IP co-owned by the Regents of the University of California, University of Vienna and Dr. Emmanuelle Charpentier), or any other of the Company's IP. On February 6, 2020, the panel clarified that the Caribou Award is limited to a particular on-going Caribou program, which seeks to develop a CAR-T product directed at CD19.

On June 16, 2021, the Company executed a Leaseback Agreement ("Leaseback") with Caribou, which settled the ongoing arbitration. Under the Leaseback negotiated by the parties, in exchange for an upfront payment, potential future regulatory and sales milestones, and single-digit royalties payable by Caribou, the Company has agreed to leaseback or sublicense certain CRISPR/Cas9 IP, including the Company's chemical gRNA modification technology and foundational CRISPR/Cas9 IP, to Caribou so that it can develop and commercialize CB-010. Caribou also will be responsible for any payments required in respect of the Company's in-licensed IP. The Company recorded $1.0 million within "Collaboration Revenue" in the second quarter of 2021 on the condensed consolidated statements of operations and comprehensive loss for an upfront payment related to the Leaseback and received the payment in the third quarter of 2021.

License Agreements

The Company is party to license agreements, which include contingent payments. These payments will become payable if and when certain development, regulatory and commercial milestones are achieved. As of December 31, 2021, the satisfaction and timing of the contingent payments is uncertain and not reasonably estimable.

9. Collaborations and Other Arrangements

To accelerate the development and commercialization of CRISPR/Cas9-based products in multiple therapeutic areas, the Company has formed, and intends to seek other opportunities to form, strategic alliances with collaborators who can augment its leadership in CRISPR/Cas9 therapeutic development. As of December 31, 2021, the Company's accounts receivable were related to its collaborations with Regeneron and AvenCell. As of December 31, 2021 the Company's contract liabilities were related to its collaborations with Regeneron, AvenCell, SparingVision and Kyverna. As of December 31, 2020, the Company's accounts receivable and contract liabilities were related to the Company's collaboration with Regeneron.

The following table presents changes in the Company's accounts receivable and contract liabilities during the years ended December 31, 2021 and 2020 (in thousands):

	Balance at Beginning of Period	Additions	Deductions	Balance at End of Period
Year Ended December 31, 2021				
Accounts receivable	$ 2,130	$ 7,559	$ (7,658)	$ 2,031
Contract liabilities:				
Deferred revenue	$ 73,931	$ 84,659	$ (31,355)	$ 127,235

	Balance at Beginning of Period	Additions	Deductions	Balance at End of Period
Year Ended December 31, 2020				
Accounts receivable	$ 4,620	$ 103,116	$ (105,606)	$ 2,130
Contract liabilities:				
Deferred revenue	$ 28,810	$ 87,477	$ (42,356)	$ 73,931

During the years ended December 31, 2021 and 2020, the Company recognized the following revenues as a result of changes in the contract liability balance (in thousands):

Revenue recognized in the period from:	Year Ended December 31, 2021	Year Ended December 31, 2020
Amounts included in the contract liability at the beginning of the period	$ 22,544	$ 11,571

Costs to obtain and fulfill a contract

The Company did not incur any expenses to obtain collaboration agreements and costs to fulfill those contracts do not generate or enhance resources of the Company. As such, no costs to obtain or fulfill a contract have been capitalized in any period.

Regeneron Pharmaceuticals, Inc.

In April 2016, the Company entered into a license and collaboration agreement with Regeneron (the "2016 Regeneron Agreement"). The 2016 Regeneron Agreement has two principal components: i) a product development component under which the parties will research, develop and commercialize CRISPR/Cas-based therapeutic products primarily focused on genome editing in the liver, and ii) a technology collaboration component, pursuant to which the Company and Regeneron will engage in research-related activities aimed at discovering and developing novel technologies and improvements to CRISPR/Cas technology to enhance the Company's genome editing platform. Under this agreement, the Company also may access the Regeneron Genetics Center and proprietary mouse models to be provided by Regeneron for a limited number of the Company's liver programs. At the inception of the 2016 Regeneron Agreement,

Regeneron selected the first of its 10 targets, transthyretin ("ATTR") amyloidosis, which is subject to a co-development and co-promotion agreement between the Company and Regeneron (the "ATTR Co/Co").

On May 30, 2020, the Company entered into (i) amendment no. 1 (the "2020 Regeneron Amendment") to the 2016 Regeneron Agreement, (ii) co-development and co-funding agreements for the treatment of hemophilia A and hemophilia B (the "Hemophilia Co/Co") agreements and (iii) a stock purchase agreement. The collaboration expansion builds upon the jointly developed targeted transgene insertion capabilities designed to durably restore missing therapeutic protein, and to overcome the limitations of traditional gene therapy. The collaboration was extended until April 2024, at which point Regeneron has an option to renew for an additional two years. The 2020 Regeneron Amendment also grants Regeneron exclusive rights to develop products for five additional *in vivo* CRISPR/Cas-based therapeutic liver targets and non-exclusive rights to independently develop and commercialize up to 10 *ex vivo* gene edited products made using certain defined cell types.

Since December 31, 2020, there have been no material changes to the key terms of the 2016 Regeneron Agreement and the 2020 Regeneron Amendment (the "Amended Agreements"). For further information on the terms and conditions of these agreements, please see the notes to the consolidated financial statements included in the Company's Annual Report for the year ended December 31, 2020.

Revenue Recognition: Collaboration Revenue. Through December 31, 2021, excluding amounts allocated to Regeneron's purchase of the Company's common stock, the Company recorded $145.0 million in upfront payments under the Amended Agreements and $37.9 million for research and development services, primarily under the ATTR Co/Co agreement. Through December 31, 2021, the Company has recognized $149.0 million of collaboration revenue under all arrangements, including $25.7 million, $53.0 million and $24.6 million of collaboration revenue in the years ended December 31, 2021, 2020 and 2019, respectively, in the consolidated statements of operations and comprehensive loss. This includes $5.9 million, $10.7 million, and $12.0 million, respectively, primarily representing payments due from Regeneron pursuant to the ATTR Co/Co agreement. These revenues are offset in part by contra-revenue related to the Hemophilia Co/Co agreements amounting to $2.7 million in the year ended December 31, 2021 and $0 million in the years ended December 31, 2020 and 2019.

As of December 31, 2021, there was approximately $51.4 million of the aggregate transaction price of the Amended Agreements remaining to be recognized, which the Company expects to be recognized during the research term through April 2024.

As of December 31, 2021 and 2020, the Company had accounts receivable of $2.0 million and $2.1 million, respectively, and deferred revenue of $51.4 million and $73.9 million, respectively, related to the Amended Agreements.

AvenCell Therapeutics, Inc.

On July 30, 2021 (the "Effective Date"), the Company entered into two agreements with AvenCell, a privately held CAR-T cell therapy company formed on that date in a joint venture between the Company, Cellex and BXLS: (i) a license and collaboration agreement (the "LCA"), under which the Company will collaborate to develop allogeneic universal CAR-T cell therapies and which granted AvenCell a license to develop and commercialize genome edited universal CAR-T cell therapies (limited to its use with their switchable, universal CAR-T cell UniCAR and RevCAR platforms); and (ii) a co-development and co-funding agreement (the "AvenCell Co/Co"), under which the Company will co-develop and co-commercialize allogeneic universal CAR-T cell products for an immuno-oncology indication.

Scope: The Company granted AvenCell an exclusive license to combine the Company's CRISPR/Cas9 technology platform with AvenCell's switchable, universal CAR-T cell technology platform and made available to AvenCell certain know-how and materials. For an eighteen-month period after the Effective Date, the Company will provide to AvenCell any improvements with respect to the underlying technology that are developed. For the two-year period immediately following the Effective Date, the Company will perform certain activities, at the Company's cost and expense, including providing to AvenCell certain know-how and materials to enable AvenCell to use the Company's CRISPR/Cas9 technology platform, as well as making available employees with requisite knowledge and experience to provide advice and answer questions regarding such know-how and materials for a limited number of hours per year (the "Knowledge Transfer Period"). In addition, the Company and AvenCell will collaborate on at least seven

universal CAR-T cell products that combine the Company's allogeneic T cell technology with AvenCell's switchable, universal CAR-T cell technology, referred to as the (“Allo Collaboration”).

AvenCell will pay the Company to provide supply and manufacturing services for them, including supplying GMP CRISPR reagents to support the research and development of all CRISPR Products (as defined in the LCA) under the Allo Collaboration until the completion of the first Pivotal Trial (as defined in the LCA) of the first such CRISPR Product.

Financial Terms: In exchange for the license, the Company received a 33.33% equity interest in AvenCell at the time of the initial closing and AvenCell is, therefore, considered to be a related party of the Company.

Governance: The parties formed a joint steering committee (“JSC”), which is responsible for setting research objectives and overseeing the general strategies and research and development activities undertaken by the parties under the LCA. The JSC will meet quarterly until the expiration or termination of the Allo Collaboration.

Term and Termination: The term of the Allo Collaboration is from the Effective Date of the LCA until the completion of all activities under the then-current Allo Collaboration with respect to all relevant CRISPR Products. The LCA contains termination provisions, including termination for insolvency, material breach, patent challenge, convenience, and cessation.

Co-Development and Co-Promotion Agreement: Under the AvenCell Co/Co the parties will co-develop and co-commercialize in the U.S. and key European countries certain allogeneic universal CAR-T products directed to an immuno-oncology target. The Company is the lead commercialization party in the U.S., and AvenCell is the lead commercialization party in the European countries. The parties will share equally in the profits and development costs. The Company will have one additional option to enter into a second co-development and co-funding agreement from selected allogeneic universal CAR-T cell therapy products that the parties intend to develop under the Allo Collaboration for a payment of $30.0 million to AvenCell.

AvenCell LCA - Accounting Analysis: The Company concluded that the accounting treatment for the LCA is within the scope of ASC 606. The Company evaluated the promised goods and services under the LCA and determined that it included one performance obligation: a combined performance obligation including the license to the allogeneic technology, initial know-how and ongoing support services, including participation in the JSC during the two-year Knowledge Transfer Period.

The transaction price was determined to be $62.9 million, which represents the fair value of the Company's equity interest in AvenCell as of the Effective Date. The Company allocated the full transaction price to the combined performance obligation including the license to allogeneic technology, the JSC, initial-know-how and ongoing support services. The Company will recognize the $62.9 million using a time elapsed input method over the Knowledge Transfer Period, which in management’s judgement is the best measure of progress towards satisfying the performance obligation as this method provides the most faithful depiction of the entity’s performance in transferring control of the goods and services promised to AvenCell. This represents the Company’s best estimate of the obligation, as after this period AvenCell will be able to fully benefit from the licensed IP on its own or with readily available resources. Revenue recorded during each period will be eliminated in part by an amount representing the Company's 33.33% ownership interest in AvenCell at that time, as this represents the intra-entity profit related to the transaction. The Company will re-evaluate the measure of progress in each reporting period and, if necessary, adjust the measure of performance and related revenue recognition. The Company completed the initial transfer of know-how in the third quarter of 2021. The Company recognized $5.9 million in revenue related to the LCA for the year ended December 31, 2021 after eliminating $2.9 million in intra-entity profits, which will be deferred and recognized if and when AvenCell commercializes a product with the Company's license or abandons the related project. Until such time, the $2.9 million of revenue is indefinitely deferred and excluded from the results of operations of the Company.

As of December 31, 2021 the Company had deferred revenue of $54.1 million related to the AvenCell LCA, which the Company expects to recognize through July 2023.

The payments attributable to the supply and manufacturing services are variable and are commensurate with the standalone selling prices of the services, and as such, will be attributed to those services. The Company did not record any consideration related to the supply and manufacturing services in 2021.

AvenCell Co/Co - Accounting Analysis: The Company concluded that the AvenCell Co/Co agreement meets the definition of a collaborative arrangement per ASC 808, which is outside of the scope of ASC 606. Since ASC 808 does not provide recognition and measurement guidance for collaborative arrangements, the Company has analogized to ASC 606. As such, the Company classifies cumulative amounts paid or received under the cost sharing provisions of the AvenCell Co/Co as a component of revenues in the consolidated statements of operations and comprehensive loss, to the extent that this does not result in a cumulative "negative revenue" amount, in which case the cumulative shortfall would be reclassified as an expense. The Company recognized $0.2 million in revenues related to the AvenCell Co/Co agreement for the year ended December 31, 2021.

SparingVision SAS

In October 2021, the Company and SparingVision, a genomic medicine company developing vision saving treatments for ocular diseases, entered into a license and collaboration agreement (the "SparingVision LCA"), to develop novel genomic medicines utilizing CRISPR/Cas9 technology for the treatment of ocular diseases.

Scope: The Company granted SparingVision exclusive rights to its proprietary *in vivo* CRISPR/Cas9-based genome editing technology for up to three ocular targets addressing diseases with significant unmet medical need. In addition, the parties will research and develop novel self-inactivating adeno-associated virus ("AAV") vectors and lipid nanoparticle-based approaches to address delivery of CRISPR/Cas9 genome editing reagents to the retina.

SparingVision will lead and fund the preclinical and clinical development for the genome editing product candidates pursued under the collaboration.

The Company will have an option to obtain exclusive U.S. commercialization rights for product candidates arising from two of three collaboration targets. For product candidates the Company chooses to option, it will pay an opt-in fee between $10.0 million and $20.0 million depending on the stage of development of the target, reimburse certain costs, share in 50% of development costs and pay royalties to SparingVision on U.S. sales.

Financial Terms: In exchange for the license, the Company received 83,316 shares of Series A2 Preferred Stock ("Series A2") which represented an equity ownership of approximately 11% at the time of closing. Attached to each share of Series A2, the Company received three warrants for the right to purchase additional Series A2 shares at designated prices that are subject to certain vesting conditions. The Company will also be eligible to receive certain research, development and commercial milestone payments (up to approximately $200 million per product) as well as royalties on potential future sales of products arising from the collaboration.

Governance: The parties formed a JSC, which is responsible for monitoring and managing the collaboration prior to program completion.

SparingVision LCA - Accounting Analysis: The Company determined that the accounting for the SparingVision LCA is within the scope of ASC 606. The Company evaluated the promised goods and services and determined that it included one performance obligation: a combined performance obligation including the license to the CRISPR technology as well as ongoing research and support services, including participation in the JSC.

The transaction price was determined to be $14.8 million, which represents the fair value of the Company's equity interest in SparingVision at the time of closing. See Note 10 for the determination of the fair value of the Company's investment. The Company allocated the full transaction price to the combined performance obligation.

The Company will use a costs-incurred input method to recognize revenue, measuring the progress of the programs based on the costs incurred against budget, which in management's judgment is the best measure of progress towards satisfying the performance obligation. These costs will be recorded as revenue when the expenses are incurred. There was no revenue recognized in the year ended December 31, 2021 related to the SparingVision LCA. As of December

31, 2021, the Company had deferred revenue of $14.8 million, which is expected to be recognized over a three to five year period.

Kyverna Therapeutics, Inc.

In December 2021, the Company and Kyverna, a cell therapy company engineering a new class of therapies for autoimmune and inflammatory diseases, entered into a licensing and collaboration agreement (the "Kyverna LCA"), for the development of an allogeneic CD19 CAR-T cell therapy for the treatment of a variety of B cell-mediated autoimmune diseases.

Scope: The Company granted Kyverna rights to its proprietary *ex vivo* CRISPR/Cas9-based allogeneic platform for the development of KYV-201, an allogeneic CD19 CAR-T cell investigational candidate for the treatment of select autoimmune diseases. This is a novel approach aimed at targeting CD19 for inflammatory diseases as compared to traditional oncology indications. Kyverna will lead and fund preclinical and clinical development for KYV-201.

The Company will have an option to lead U.S. commercialization for KYV-201 under a co-development and co-commercialization agreement. If the Company chooses to co-develop and co-commercialize KYV-201, it will pay an opt-in fee of $5.0 million and share in 50% of development costs and future net profit and/or loss arising from commercializing KYV-201 in the U.S. Kyverna retains all rights outside of the U.S., and the Company will receive low-to-mid-single-digit royalties on net sales generated outside of the U.S. Kyverna is considered to be a related party, as they have a board member in common with the Company.

Financial Terms: In exchange for the license, the Company received an equity ownership of approximately 7% in Kyverna at the time of closing. The Company will be eligible to receive certain development and commercial milestone payments, as well as low-to-mid-single-digit royalties on potential future sales of KYV-201.

Kyverna LCA – Accounting Analysis: The Company determined that the accounting for the Kyverna LCA is within the scope of ASC 606. The Company evaluated the promised goods and services and determined that it included one performance obligation: a combined performance obligation related to the transfer of the license related to the allogeneic platform technology, a technology transfer, and other supply and research and development activities.

The transaction price was determined to be $7.0 million, which represents the fair value of the Company's equity interest in Kyverna at the time of closing. See Note 10 for the determination of the fair value of the Company's investment. The Company allocated the full transaction price to the combined performance obligation.

Revenue will be recognized under a time-elapsed input model starting at the completion of the technology transfer, which in management's judgment is the best measure of progress towards satisfying the performance obligation. Progress will be measured and reassessed quarterly. There was no revenue recognized in the year ended December 31, 2021 related to the Kyverna LCA. As of December 31, 2021, the Company had deferred revenue of $7.0 million which is expected to be recognized over a nine to twelve month period.

Novartis Institutes for BioMedical Research, Inc.

In December 2014, the Company entered into a strategic collaboration agreement with Novartis (the "2014 Novartis Agreement"), primarily focused on the research of new *ex vivo* CRISPR/Cas9-edited therapies using CAR-T cells and hematopoietic stem cells ("HSCs"). The agreement was amended in December 2018 (the "Novartis Amendment") to also include research on ocular stem cells ("OSCs"). In December 2019, per the terms of the 2014 Novartis Agreement, the research term ended, although the 2014 Novartis Agreement remains in effect, for which the Company will be eligible to receive milestone and royalty payments in the future. In June 2021, the Company entered into Amendment No. 3 (the "Amendment") to the 2014 Novartis Agreement. The Amendment amends Novartis' rights with respect to all of the CAR-T Therapeutic Targets (as defined in the 2014 Novartis Agreement) that Novartis selected under the 2014 Novartis Agreement, including (a) making Novartis' license non-exclusive for such CAR-T Therapeutic Targets, (b) removing Novartis' diligence and related reporting obligations for such CAR-T Therapeutic Targets, and (c) refining the scope of Novartis' sublicense rights for such CAR-T Therapeutic Targets. The Company made a one-time payment to Novartis of $10.0 million within 30 days after the effective date of the Amendment, which was recorded as research and development expense in the consolidated statement of operations and comprehensive loss for the year ended December 31, 2021. Since December 31, 2020, there have been no other material changes to the key terms of the 2014 Novartis Agreement and the Novartis Amendment. For further information on the terms and conditions of these agreements, please see the notes to the consolidated financial statements included in the Company's Annual Report for the year ended December 31, 2020.

Revenue Recognition – Collaboration Revenue. Through December 31, 2021, excluding amounts allocated to Novartis' purchase of the Company's Class A-1 and Class A-2 Preferred Units, the Company had recorded a total of $62.4 million in cash under the 2014 Novartis Agreement and the Novartis Amendment. Through December 31, 2021, the Company recognized $62.4 million of collaboration revenue. No revenue was recognized during the years ended December 31, 2021 or 2020 related to the 2014 Novartis Agreement and the Novartis Amendment. The Company recognized $18.5 million during the year ended December 31, 2019, in the consolidated statement of operations and comprehensive loss, related to the 2014 Novartis Agreement and the Novartis Amendment. As of December 31, 2019, the aggregate transaction price had been recognized in full.

Revenue Recognition – Milestone. In March 2020, the U.S. Food and Drug Administration ("FDA") accepted the Investigational New Drug ("IND") application submitted by Novartis for a CRISPR/Cas9-based engineered cell therapy for the treatment of sickle cell disease. As a result of meeting this milestone, the Company recognized $5.0 million as collaboration revenue within the consolidated statement of operations and comprehensive loss. In September 2021, an additional milestone was reached and, as a result, the Company recognized $0.3 million as collaboration revenue within the consolidated statement of operations and comprehensive loss. No other milestones under the 2014 Novartis Agreement and the Novartis Amendment were achieved during the years ended December 31, 2021, 2020 or 2019. The Company is eligible to receive additional downstream success-based milestones and royalties.

As of December 31, 2021 and 2020, the Company had no accounts receivable or deferred revenue related to the 2014 Novartis Agreement and the Novartis Amendment.

10. Equity-Method Investment and Other Investments

AvenCell Therapeutics, Inc.

On July 30, 2021, the Company finalized a transaction in which the Company, Cellex and BXLS established AvenCell, a joint venture and privately held company. In exchange for contributing an exclusive license to the joint venture, the Company entered into a Preferred Stock Purchase Agreement with AvenCell for a 33.33% equity interest in AvenCell at the time of the initial closing. Cellex and BXLS each equally owned the remaining 66.67% at that time.

The Company has significant influence over, but does not control, AvenCell through its noncontrolling representation on AvenCell's Board of Directors and the Company's equity interest in AvenCell. The Company has determined that the preferred stock it owns is in-substance common stock. The Company is not the primary beneficiary as it does not have the power to direct the activities of AvenCell that most significantly impact AvenCell's economic performance. Accordingly, the Company does not consolidate the financial statements of AvenCell and accounts for its investment using the equity method of accounting.

As of the closing date, the fair value of the Company's investment in AvenCell was $62.9 million which represents the fair value of the preferred stock received in exchange for the exclusive license to the Company's CRISPR/Cas9 allogeneic platform (See Note 9). In determining the fair value of the Company's investment, the Company used an option pricing model which requires the input of certain subjective assumptions. The key assumptions used in the option pricing model, which are level 3 inputs, include the anticipated holding period to an exit and liquidity event, the volatility of market participants (76%), the probability of AvenCell achieving certain milestones to obtain subsequent financings (75%) and the discount for lack of marketability (11%).

The Company recorded the initial investment in AvenCell of $62.9 million in "Equity method investments" on its consolidated balance sheet. Due to the timing and availability of AvenCell's financial information, the Company will record its share of losses from AvenCell on a quarterly basis on a one-quarter lag from July 30, 2021. Therefore, the Company recorded its share of two months of AvenCell's losses generated in the third quarter of 2021 in the Company's operating results and other comprehensive loss in the fourth quarter of 2021, resulting in a reduction of the Company's investment by $1.8 million. The Company will record its share of three months of AvenCell's losses generated in the fourth quarter of 2021 in the Company's operating results in the first quarter of 2022. The Company is not aware of any material events or transactions during this period. The elimination of the intra-entity profit component of $2.9 million (See Note 9) resulted in a further reduction in the balance of the investment in AvenCell, bringing the carrying value of the investment to $58.1 million as of December 31, 2021.

At December 31, 2021, the maximum exposure to loss is limited to the Company's equity investment in the joint venture.

SparingVision SAS

In connection with the SparingVision LCA (See Note 9), the Company received 83,316 shares of Series A2 Preferred Stock ("Series A2"). Attached to each share of Series A2, the Company received three warrants for the right to purchase additional Series A2 shares at designated prices that are subject to certain vesting conditions (collectively referred to as the "SparingVision investments"). The Company accounts for the SparingVision investments using the measurement alternative as SparingVision is a private company and there is no readily observable transaction price. In determining the fair value of the SparingVision investments, the Company used an option pricing model which requires the input of certain subjective assumptions. The key assumptions used in the option pricing model, which are level 3 inputs, include the anticipated holding period to an exit and liquidity event, the volatility of market participants (90%), and the rate of return (65%). The Company recorded the initial investment in SparingVision of $14.8 million in "Investments and other assets" on its consolidated balance sheet. There was no change in the observable price of the SparingVision investments as of December 31, 2021.

Kyverna Therapeutics, Inc.

In connection with the Kyverna LCA (See Note 9), the Company received 3,739,515 shares of Series B Preferred Stock with a fair value of $7.0 million. The Company separately made an additional investment in Kyverna, purchasing 1,602,649 shares of Series B Preferred Stock in exchange for $3.0 million in cash (collectively referred to as the "Kyverna investments"). The Company accounts for the Kyverna investments using the measurement alternative as Kyverna is a private company and there is no readily observable transaction price. The Company recorded the initial investment in Kyverna of $10.0 million in "Investments and other assets" on its consolidated balance sheet. There was no change in the observable price of the Kyverna investment as of December 31, 2021.

11. Leases

In October 2014, the Company entered into an agreement to lease office and laboratory space at 130 Brookline Street (the "130 Brookline Lease") in Cambridge, Massachusetts under an operating lease agreement with a term through January 2020, with an option to extend the term of the lease for an additional five-year period. In April 2019, the lease was amended to extend the term for the additional five-year period, through January 2025. Upon the execution of the original lease, the Company provided a $0.3 million security deposit which is recorded in "Investments and other assets" on the Company's consolidated balance sheets.

In March 2020, the Company entered into a second amendment to the 130 Brookline Lease (the "130 Brookline Lease Second Amendment"). The 130 Brookline Lease Second Amendment extends the term of the 130 Brookline Lease by

approximately six years through January 31, 2031. This extended term is included as part of the lease liability and right-of-use asset at December 31, 2021. The 130 Brookline Lease Second Amendment also provides an option to extend the lease for two consecutive five-year terms. The option for these further extensions is not included as part of the lease liability and right-of-use asset at December 31, 2021, as it is not reasonably certain that it will be exercised. In the first quarter of 2020, the Company increased the right-of-use asset and liability related to this lease by approximately $7.3 million related to the 130 Brookline Lease Second Amendment.

In March 2019, the Company entered into a separate agreement to sublease additional office and laboratory space at 130 Brookline Street in Cambridge, Massachusetts under an operating sublease agreement with a term through April 2021, with two options to extend the agreement by one year each, for a total option period of up to two years. Upon commencement of the lease in April 2019, the Company recognized a right-of-use asset and lease liability of approximately $1.3 million. In September 2020, the Company amended the lease to extend the term until October 2021. An adjustment of $0.4 million to the right-of-use asset and lease liability was recorded upon the execution of the amendment. This sublease was terminated in September 2021.

In January 2016, the Company entered into a ten-year agreement to lease office and laboratory space at 40 Erie Street (the “40 Erie Lease”) in Cambridge, Massachusetts under an operating lease agreement, with an option to terminate the lease at the end of the sixth year and an option to extend the term of the lease for an additional three years. Upon the execution of this lease, the Company provided a $2.2 million security deposit, which has been recorded in “Investments and other assets” on the consolidated balance sheets. In November 2020, the Company entered into a second amendment to the 40 Erie Lease (the “40 Erie Lease Second Amendment”) which provides the Company with a right of first offer with respect to any space that becomes available at the 40 Erie Street building, and in consideration for this right the Company agreed to nullify the option to terminate the lease at the end of the sixth year that was included in the 40 Erie Lease. In the fourth quarter of 2020, the Company increased the right-of-use asset and liability related to this lease by approximately $18.5 million related to the 40 Erie Lease Second Amendment.

In March 2020, the Company entered into an agreement to lease approximately 39,000 square feet of office and laboratory space at 281 Albany Street in Cambridge, Massachusetts under an operating lease agreement (the “281 Albany Lease”). The initial term of the 281 Albany Lease is ten years following the rent commencement date which was determined to be March 2021 in accordance with ASC 842, *Leases (Topic 842)* (“ASC 842”), as that was when the facility was substantially complete and available for use. The Company recognized a right-of-use asset and a lease liability of approximately $40.4 million and $34.8 million, respectively, in the first quarter of 2021 related to the 281 Albany Lease. In determining the lease liability, the Company used an incremental borrowing rate of 5.52% based on a number of factors including the Company’s credit rating and the lease term. Included in the recognized right-of-use asset at the inception of the lease was approximately $5.6 million in lease payments that were prepaid under the terms of the lease. The Company modified the right-of-use asset in the second quarter of 2021 based on changes to the configuration of this space, resulting in an additional $1.4 million being added to the right-of-use asset. The base rent under the 281 Albany Lease is $99.00 per square foot per year during the first year of the term, which is subject to scheduled annual increases up to $128.87 per square foot per year during the last year of the initial term, plus certain operating expenses and taxes. In addition, the landlord contributed an aggregate of $4.4 million toward the cost of construction and tenant improvements for the premises. In accordance with the 281 Albany Lease, the Company is required to maintain a letter of credit in the amount of $1.9 million that is restricted for the term of the lease. These restricted cash equivalents are reported in “Investments and other assets” in the Company’s consolidated balance sheet. The Company has the option to extend the 281 Albany Lease for two successive five-year terms; this option is not included as part of the lease liability and right-of-use asset at December 31, 2021, as it is not reasonably certain that it will be exercised.

In July 2021, the Company entered into an agreement to lease 13,662 square feet of office space at 17 Tudor Street in Cambridge, Massachusetts under an operating lease agreement (the “17 Tudor Lease”). The Company’s obligation to pay rent began on November 1, 2021. The initial term of the 17 Tudor Lease is five years and the Company has an option to extend the 17 Tudor Lease for one three-year term. The option is not included as part of the lease liability and right-of-use asset at December 31, 2021, as it is not reasonably certain that it will be exercised. The base rent under the 17 Tudor Lease is $74.00 per square foot during the first year of the term, which is subject to scheduled annual increases throughout the term, resulting in a base rent of $83.29 per square foot during the last year of the initial term, plus certain operating expenses and taxes. In September 2021 the Company determined, in accordance with ASC 842, that the commencement date of the lease had been met as the Company had gained access to the facility

in order to begin work on lessee-owned tenant improvements and, accordingly, the Company recognized a right-of-use asset and a lease liability of approximately $4.9 million in the third quarter of 2021 related to the 17 Tudor Lease. In determining the lease liability, the Company used an incremental borrowing rate of 4.15% based on a number of factors including the Company's credit rating and the lease term. In accordance with the 17 Tudor Lease, the Company is required to maintain a letter of credit in the amount of $0.2 million that is restricted for the term of the lease. These restricted cash equivalents are reported in "Investments and other assets" in the Company's consolidated balance sheet.

In July 2021, the Company entered into an agreement to extend an existing lease for a clean room located in Waltham, Massachusetts under an operating lease agreement (the "Waltham Lease") for an additional two years. The Company determined, in accordance with ASC 842, that the extension should be accounted for as a lease modification and, accordingly, recorded an adjustment to the right-of-use asset and lease liability of approximately $2.5 million in the third quarter of 2021 related to the Waltham Lease.

Throughout the term of its leases, the Company is responsible for paying certain costs and expenses, in addition to the rent, as specified in the lease, including a proportionate share of applicable taxes, operating expenses and utilities. The variable portion of these costs are expensed as incurred and are disclosed as variable lease cost.

The following table contains a summary of the lease costs recognized under ASC 842 and other information pertaining to the Company's operating leases for the years ended December 31, 2021 and 2020:

	Year Ended December 31,	
	2021	2020
	(In thousands)	
Lease cost		
Operating lease cost	$ 12,871	$ 8,447
Short-term lease cost	31	56
Variable lease cost	3,339	2,918
Total lease cost	$ 16,241	$ 11,421

	Year Ended December 31,	
	2021	2020
	(In thousands)	
Other information		
Operating cash flows used for operating leases	$ 12,641	$ 7,495
Operating lease liabilities arising from obtaining right-of-use assets	49,378	26,432

	As Of December 31,	
	2021	2020
Lease term and discount rate		
Weighted average remaining lease term	7.2 years	6.7 years
Weighted average discount rate	5.50%	5.80%

The table below reconciles the undiscounted cash flows for each of the next five years and total of the remaining years to the operating lease liabilities recorded in the consolidated balance sheet as of December 31, 2021:

Future Operating Lease Payments	
Year Ending December 31,	**(in thousands)**
2022	$ 12,929
2023	13,398
2024	12,320
2025	12,838
2026	11,544
Thereafter	28,809
Total lease payments	$ 91,838
Less: imputed interest	(17,815)
Total operating lease liabilities at December 31, 2021	$ 74,023

12. Equity-Based Compensation

Equity-based compensation expense is classified in the consolidated statements of operations and comprehensive loss as follows:

	Year Ended December 31,		
	2021	**2020**	**2019**
		(In thousands)	
Research and development	$ 26,712	$ 10,202	$ 6,986
General and administrative	20,297	9,701	8,105
Total	$ 47,009	$ 19,903	$ 15,091

Amended and Restated 2015 Stock Option and Incentive Plan

In April 2016, the Company adopted the Amended and Restated 2015 Stock Option and Incentive Plan (the “2015 Plan”). The 2015 Plan provides for the grant of incentive stock options, non-qualified stock options, stock appreciation rights, restricted stock awards (“RSAs”), restricted stock units (“RSUs”) and other stock-based awards. Recipients of incentive stock options and non-qualified stock options are eligible to purchase shares of the Company’s common stock at an exercise price equal to the fair value of such stock on the grant date. Stock options granted under the 2015 Plan generally vest 25% on the first anniversary of the original vesting date, with the balance vesting monthly over the remaining three years, unless they contain specific performance-based vesting provisions. The maximum term of stock options granted under the 2015 Plan is ten years.

As of December 31, 2021, there were 2,241,278 shares available for future issuance under the 2015 Plan. The number of shares reserved for issuance under the 2015 Plan shall be cumulatively increased by four percent of the number of

shares of stock issued and outstanding on the immediately preceding December 31 or such lesser number of shares of stock as determined by the board of directors.

Restricted Stock Units

RSUs are measured at fair value based on the quoted price of the Company's common stock.

The following table summarizes the Company's RSU activity for the year ended December 31, 2021:

	Number of Shares	Weighted Average Grant Date Fair Value per Share
Unvested restricted stock units as of December 31, 2020	193,936	$ 23.98
Granted	451,272	73.81
Vested	(119,715)	20.94
Cancelled	(72,467)	45.14
Unvested restricted stock units as of December 31, 2021	453,026	$ 71.03

In January 2020, the Company granted 181,020 RSUs to certain non-executive employees that included a performance condition in addition to a service condition. These RSUs would vest over a period of three years and were subject to accelerated vesting based on the Company's programs achieving certain development milestones before December 1, 2022. The fair value of the RSUs at date of grant was $15.05. During the year ended December 31, 2020, the Company achieved one of its development milestones and 58,870 of these RSUs vested. During the year ended December 31, 2021, 26,235 of these RSUs vested based on the satisfaction of a service condition, and 64,290 vested due to the achievement of additional development milestones. At December 31, 2021, none of these RSUs are unvested.

The weighted-average grant date fair value of RSUs granted for the years ended December 31, 2021, 2020 and 2019 was $73.81, $21.70 and $0. The total fair value of RSUs vested (measured on the date of vesting) for the years ended December 31, 2021 and 2020 was $14.1 million and $2.8 million, respectively. During the year ended December 31, 2019, RSAs that were granted prior to the Company's IPO vested with a total fair value (measured on the date of vesting) of $0.6 million.

As of December 31, 2021, there was $27.1 million of unrecognized equity-based compensation expense related to RSUs that are expected to vest. These costs are expected to be recognized over a weighted average remaining vesting period of 2.8 years.

Stock Options

The weighted average grant date fair value of options, estimated as of the grant date using the Black-Scholes option pricing model, was $54.09 per option for options granted during the year ended December 31, 2021, $9.07 per option for options granted during the year ended December 31, 2020, and $9.21 per option for options granted during the year ended December 31, 2019. The total intrinsic value (the amount by which the fair market value exceeded the exercise price) of stock options exercised during the years ended December 31, 2021, 2020 and 2019 was $262.0 million, $20.3 million, and $2.3 million, respectively. Weighted average assumptions used to apply this pricing model were as follows:

	Year Ended December 31,		
	2021	2020	2019
Risk-free interest rate	1.0%	0.8%	2.1%
Expected life of options	6.0 years	6.0 years	6.0 years
Expected volatility of underlying stock	72.9%	67.8%	68.1%
Expected dividend yield	0.0%	0.0%	0.0%

Risk-free Interest Rate. The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant with maturities approximately equal to the option's expected term.

Expected Dividend Yield. The expected dividend yield assumption is based on the fact that the Company has never paid cash dividends and has no present intention to pay cash dividends.

Expected Volatility. The expected volatility was derived from a blend of the Company's historical volatility and an average of the historical stock volatilities of several peer companies within the Company's industry, both over a period equivalent to the expected term of the stock option grants.

Expected Term. The expected term represents the period that stock option awards are expected to be outstanding. For option grants that are considered to be "plain vanilla," the Company determines the expected term using the simplified method. The simplified method deems the term to be the average of the time-to-vesting and the contractual life of the options. The Company uses the simplified method because it does not have sufficient historical option exercise data to provide a reasonable basis upon which to estimate the expected term.

The Company uses the market closing price of its common stock as reported on the Nasdaq Global Select Market to determine the fair value of the shares of common stock underlying stock options. The following is a summary of stock option activity for the year ended December 31, 2021:

	Number of Options	Weighted Average Exercise Price per Share	Weighted Average Remaining Contractual Term (In years)	Aggregate Intrinsic Value (In thousands)
Outstanding at December 31, 2020	6,977,440	$ 15.43		
Granted	2,729,302	84.16		
Exercised	(2,700,886)	15.22		
Forfeited	(700,700)	30.74		
Outstanding at December 31, 2021	6,305,156	$ 43.57	7.38	$ 492,968
Exercisable at December 31, 2021	2,227,760	$ 16.37	5.43	$ 226,941

As of December 31, 2021, there was $130.3 million of unrecognized compensation cost related to stock options that have not yet vested. These costs are expected to be recognized over a weighted average remaining vesting period of 3.1 years.

2016 Employee Stock Purchase Plan

In May 2016, the Company adopted the 2016 Employee Stock Purchase Plan (the "2016 Plan"). The 2016 Plan allows eligible employees to purchase shares of the Company's common stock on the last day of each predetermined six-month offering period at 85% of the lower of the fair market value per share at the beginning or end of the applicable offering period. The 2016 Plan provides for six-month offering periods beginning in January and July of each year.

As of December 31, 2021, there were 1,297,202 shares available for future issuance under the 2016 Plan. The number of shares reserved for issuance under the 2016 Plan shall be cumulatively increased by the lesser of a) one percent of the number of shares of common stock issued and outstanding on the immediately preceding December 31, b) 500,000 shares of common stock, or c) such lesser number of shares of common stock as determined by the board of directors.

During the years ended December 31, 2021, 2020, and 2019, the Company issued 30,897, 101,911, and 90,581 shares of common stock under the 2016 Plan, respectively. The weighted-average purchase prices of shares issued under the 2016 Plan were $65.51, $15.28, and $12.05 per share for the years ended December 31, 2021, 2020, and 2019, respectively.

The fair value of the awards issued under the 2016 Plan to employees was estimated at the beginning of the offering period using a Black-Scholes option-pricing model with the following assumptions:

	Year Ended December 31,		
	2021	2020	2019
Risk-free interest rate	0.05%-0.09%	0.17%-1.6%	2.1%-2.5%
Expected term (in years)	0.5 years	0.5 years	0.5 years
Expected volatility of underlying stock	77.5%-109.2%	53.4%-98.3%	62.9%-76.5%
Expected dividend yield	0.0%	0.0%	0.0%

13. Loss Per Share

Basic and diluted loss per share was calculated as follows:

	Year Ended December 31,		
	2021	2020	2019
	(In thousands)		
Net loss	$ (267,892)	$ (134,231)	$ (99,533)
Weighted average shares outstanding, basic and diluted	70,894	55,987	47,247
Net loss per share, basic and diluted	$ (3.78)	$ (2.40)	$ (2.11)

The following common stock equivalents were excluded from the calculation of diluted loss per share in 2021, 2020 and 2019 because their inclusion would have been anti-dilutive:

	Year Ended December 31,		
	2021	2020	2019
	(In thousands)		
Unvested restricted stock	453	194	72
Stock options	6,305	6,977	5,366
	6,758	7,171	5,438

14. Stockholders' Equity

Follow-on Offerings

On June 1, 2020, the Company entered into an underwriting agreement related to a public offering of 6,301,370 shares of its common stock, par value $0.0001 per share, including the exercise in full by the underwriters of their option to purchase an additional 821,917 shares, at the public offering price of $18.25 per share. The offering closed on June 5, 2020 and the Company received net proceeds of $107.7 million, after deducting the underwriting discount, commissions and offering expenses.

On December 1, 2020, the Company entered into an underwriting agreement related to a public offering of 5,513,699 shares of its common stock, par value $0.0001 per share, including the exercise in full by the underwriters of their option to purchase an additional 719,178 shares, at the public offering price of $36.50 per share. The offering closed on December 4, 2020 and the Company received net proceeds of $188.9 million, after deducting the underwriting discount, commissions and offering expenses.

On June 29, 2021, the Company entered into an underwriting agreement related to a public offering of 4,758,620 shares of its common stock, par value $0.0001 per share, including the exercise in full by the underwriters of their option to purchase an additional 620,689 shares at a public offering price of $145.00 per share. The offering closed on July 2, 2021 and the Company received net proceeds of $648.3 million, after deducting the underwriting discount, commissions and offering expenses.

At-the-Market Offering Programs

In October 2018, the Company entered into an Open Market Sale Agreement (the "2018 Sale Agreement") with Jefferies LLC ("Jefferies"), under which Jefferies was able to offer and sell, from time to time in "at-the-market" offerings, shares of its common stock having aggregate gross proceeds of up to $100.0 million. The Company paid to Jefferies cash commissions of 3.0% of the gross proceeds of sales of common stock under the 2018 Sale Agreement. The Company issued 5,890,648 shares of its common stock at an average price of $16.98 per share in accordance with the 2018 Sale Agreement for aggregate net proceeds of $96.4 million, after payment of cash commissions to Jefferies and approximately $0.6 million related to legal, accounting and other fees in connection with the sales. All shares related to the 2018 Sale Agreement had been sold as of December 31, 2019.

In August 2019, the Company entered into an Open Market Sale Agreement (the "2019 Sale Agreement") with Jefferies, under which Jefferies was able to offer and sell, from time to time in "at-the-market" offerings, common stock having aggregate gross proceeds of up to $150.0 million. The Company agreed to pay Jefferies cash commissions of 3.0% of the gross proceeds of sales of common stock under the 2019 Sale Agreement. During the year ended

December 31, 2019, the Company issued 287,231 shares of its common stock, in a series of sales, at an average price of $16.48 per share, in accordance with the 2019 Sale Agreement for aggregate net proceeds of $4.4 million, after payment of cash commissions to Jefferies and approximately $0.2 million related to legal, accounting and other fees in connection with the sales. During the year ended December 31, 2020, the Company issued 2,270,161 shares of its common stock in a series of sales at an average price of $22.53 per share in accordance with the 2019 Sale Agreement, for aggregate net proceeds of $49.5 million after payment of cash commissions to Jefferies and approximately $0.2 million related to legal, accounting and other fees in connection with the sales. During the year ended December 31, 2021, the Company issued 641,709 shares of its common stock in a series of sales at an average price of $72.79 per share in accordance with the 2019 Sale Agreement, for aggregate net proceeds of $45.3 million after payment of cash commissions to Jefferies and approximately $0.1 million related to legal, accounting and other fees in connection with the sales.

As of December 31, 2021, $47.4 million in shares of common stock remain eligible for sale under the 2019 Sale Agreement.

Shares Issued in Private Placement to Regeneron

As described in Note 9 above, in May 2020 the Company entered into an amendment to its collaboration agreement with Regeneron that was entered into in April 2016. Simultaneously, the Company and Regeneron entered into the 2020 Stock Purchase Agreement, under which the Company sold to Regeneron 925,218 shares of its common stock, par value $0.0001 per share, for aggregate cash consideration of $30.0 million, or $32.42 per share, representing a 100% premium over the volume-weighted average trading price of the Company's common stock during the 30-day period prior to the closing. Under the 2020 Stock Purchase Agreement, Regeneron will not dispose of any shares of common stock it beneficially owns in the Company until the termination of the Technology Collaboration Term (see Note 9). After applying equity accounting guidance to measure the issuance of the shares, $12.6 million was recorded as fair value in the consolidated statement of stockholders' equity for the shares.

15. Related Party Transactions

In the ordinary course of business, the Company may purchase materials or supplies from entities that are associated with a party that meets the criteria of a related party of the Company. These transactions are reviewed quarterly and to date have not been material to the Company's consolidated financial statements.

The Company and AvenCell are parties to the AvenCell LCA and AvenCell Co/Co, as described in Note 9. The Company's relationship with AvenCell is considered to be as a related party due to the Company's 33.33% investment in AvenCell being accounted for under the equity method. The Company recognized $5.9 million and $0.2 million in revenue under the AvenCell LCA and AvenCell Co/Co, respectively, for the year ended December 31, 2021. As of December 31, 2021 the Company had deferred revenue of $54.1 million, comprised of $34.2 million in current deferred revenue and $19.9 million in non-current deferred revenue, related to the AvenCell LCA.

The Company and Kyverna are parties to the Kyverna LCA and are considered to be related parties because they have a common board member (see Note 9). The Company owns preferred stock of Kyverna, the value of which is included in "Investments and other assets" in the consolidated balance sheet. The value of this investment was $10.0 million as of December 31, 2021. There was no revenue recognized in the year ended December 31, 2021 related to the Kyverna LCA. As of December 31, 2021, the Company had deferred revenue of $7.0 million related to the Kyverna LCA.

16. 401(k) Plan

In 2015, the Company established the Intellia Therapeutics, Inc. 401(k) Plan (the "401(k) Plan") for its employees, which is designed to be qualified under Section 401(k) of the Internal Revenue Code. Eligible employees are permitted to contribute to the 401(k) Plan within statutory and 401(k) Plan limits. The Company makes matching contributions of 50% of the first 6% of employee contributions. The Company made matching contributions of $1.6 million, $1.1 million and $0.8 million for the years ended December 31, 2021, 2020 and 2019, respectively.

17. Subsequent Events

In January 2022, the Company entered into a Lease Agreement (the "Lease") with the Massachusetts Institute of Technology (the "Landlord") for office and laboratory space located at 730 Main Street, Cambridge, Massachusetts (the "Premises"). Under the terms of the Lease, the Company will lease approximately 38,000 square feet at the Premises, which will supplement the Company's current leased premises in Cambridge, Massachusetts. The Lease, including the obligation to pay rent, is expected to commence on October 22, 2022 (the "Commencement Date"). The initial term of the Lease is ten years following the Commencement Date. The base rent under the Lease is $130.00 per square foot per year during the first year of the term, which is subject to scheduled annual increases up to $169.62 per square foot per year during the last year of the initial term, plus certain operating expenses and taxes. The Company has the option to extend the Lease for one five-year term.

On February 2, 2022, the Company entered into an Agreement and Plan of Merger (the "Merger Agreement") with RW Acquisition Corp., a Delaware corporation and a wholly-owned direct subsidiary of the Company ("Merger Sub"), Rewrite Therapeutics, Inc., a Delaware corporation ("Rewrite") and Shareholder Representative Services LLC, a Colorado limited liability company, solely in its capacity as the representative of the Rewrite Holders (as defined below). On the effective date of the Merger Agreement, Merger Sub merged with and into Rewrite, with Rewrite surviving as a wholly-owned direct subsidiary of the Company.

Pursuant to the Merger Agreement, and subject to the terms and conditions thereof, the Company paid Rewrite's former stockholders and optionholders (the "Rewrite Holders") upfront consideration in an aggregate amount of approximately $45.0 million payable in cash, excluding customary purchase price adjustments. In addition, the Rewrite Holders will be eligible to receive up to an additional $155.0 million in milestone payments upon the achievement of certain pre-specified research and regulatory approval milestones, payable through a mixture of $130.0 million in cash and $25.0 million in shares of common stock, par value $0.0001 per share ("Common Stock"). The shares of Common Stock will be valued using the volume-weighted average price of Common Stock of the Company over the ten consecutive trading day period ending on and including the trading day that is two trading days immediately prior to the issuance of the consideration issued in connection with the applicable milestone.

On February 12, 2022 the Company entered into a license, collaboration and option agreement with ONK Therapeutics, Ltd. ("ONK"), an innovative company dedicated to developing optimally engineered natural killer ("NK") cell therapies to cure patients with cancer. The agreement grants ONK a non-exclusive license to the Company's proprietary *ex vivo* CRISPR/Cas9-based genome editing platform and its LNP-based delivery technologies for development of up to five allogeneic NK cell therapies, which license is exclusive with respect to certain gRNAs. ONK will be responsible for preclinical and clinical development for the engineered NK cell therapies enabled by the agreement. The Company will be eligible to receive up to $184 million per product in development and commercial milestone payments, as well as up to mid-single digit royalties on potential future sales. In addition, the agreement grants the Company options to co-develop and co-commercialize up to two products developed through the collaboration worldwide with rights to lead commercialization in the U.S.

In February 2022, the Company entered into a Lease Agreement (the "Winter Street Lease") with ARE-Winter Street Property, LLC (the "Landlord") for manufacturing space located at 840 Winter Street, Waltham, Massachusetts (the "Premises"). Under the terms of the Winter Street Lease, the Company will lease approximately 140,000 square feet at the Premises, which will provide the Company with the ability to manufacture its own products in a GMP compliant facility as well as to supplement the Company's current leased premises in Cambridge, Massachusetts. The Winter Street Lease, including the obligation to pay rent, is expected to commence on February 1, 2024 (the "Commencement Date"). The initial term of the Winter Street Lease is twelve years following the Commencement Date. The base rent under the Winter Street Lease is $73.50 per square foot per year during the first year of the term, which is subject to scheduled 3% annual increases, plus certain operating expenses and taxes. The Company has the option to extend the Winter Street Lease for two five-year terms.

EXHIBIT INDEX

Exhibit No.	Exhibit Index
3.1	Second Amended and Restated Certificate of Incorporation of the Registrant (1)
3.2	Second Amended and Restated By-laws of the Registrant (1)
3.3	Amendment to the Second Amended and Restated By-laws of the Registrant (11)
4.1	Description of Certain Registrant's Securities (15)
10.1#	2015 Amended and Restated Stock Option and Incentive Plan and forms of award agreements thereunder (3)
10.2#	Senior Executive Cash Incentive Bonus Plan (5)
10.3†	License Agreement dated as of July 16, 2014 by and between the Registrant (as successor in interest of Intellia Therapeutics, LLC) and Caribou Biosciences, Inc. (4)
10.4†	Services Agreement dated as of July 16, 2014 by and between the Registrant (as successor in interest of Intellia Therapeutics, LLC) and Caribou Biosciences, Inc. (4)
10.5†	License and Collaborative Research Agreement dated as of December 18, 2014 by and between the Registrant and Novartis Institutes for BioMedical Research, Inc. (2)
10.6#	Form of Indemnification Agreement (3)
10.7	Lease Agreement, by and between the Registrant and MIT 130 Brookline LLC, dated as of October 21, 2014 (5)
10.8	Lease Agreement, by and between the Registrant and BMR-Sidney Research Campus LLC, dated as of January 6, 2016 (5)
10.9#	2016 Employee Stock Purchase Plan (3)
10.10†	Amendment No. 1 to License Agreement dated as of February 2, 2016 by and between the Registrant and Caribou Biosciences, Inc. (5)
10.11†	Addendum to License Agreement dated as of February 2, 2016 by and between the Registrant and Caribou Biosciences, Inc. (5)
10.12†	License and Collaboration Agreement dated as of April 11, 2016 by and between the Registrant and Regeneron Pharmaceuticals, Inc. (2)
10.13	Common Stock Purchase Agreement dated as of April 26, 2016 between the Registrant and Regeneron Pharmaceuticals, Inc. (3)
10.14	Common Stock Purchase Agreement dated as of April 26, 2016 between the Registrant and Novartis Institutes for BioMedical Research, Inc. (3)
10.15#	Form of Employment Agreement for Executive Officers (3)
10.16†*	Consent to Assignments, Licensing and Common Ownership and Invention Management Agreement dated December 15, 2016 by and between the Registrant, CRISPR Therapeutics AG, The Regents of the University of California, University of Vienna, ERS Genomics Ltd., TRACR Hematology Ltd., Caribou Biosciences, Inc., and Dr. Emmanuelle Charpentier
10.17#	Form of Amended and Restated Employment Agreement (7)
10.18†	Letter Agreement, dated as of July 20, 2018, by and between the Company and Regeneron Pharmaceuticals, Inc. and the corresponding Form of Co-Development and Co-Promotion Agreement, by and between the Company and Regeneron Pharmaceuticals, Inc. (8)

10.19†	Agreement and Amendment to License and Collaborative Research Agreement, dated as of December 3, 2018, by and between Novartis and the Company (9)
10.20	First Amendment to Lease, dated as of April 5, 2019, by and between the Company and MIT 130 Brookline Leasehold LLC. (10)
10.21#	Fourth Amended and Restated Non-Employee Director Compensation Policy (4)
10.22	Lease Agreement, by and between the Registrant and 281-295 Albany Street Leasehold LLC, dated as of March 12, 2020 (12)
10.23	Second Amendment to Lease, dated as of March 12, 2020, by and between the Company and MIT 130 Brookline Leasehold LLC. (12)
10.24†	Amendment No. 1 to the License and Collaboration Agreement, dated as of May 30, 2020 by and between the Company and Regeneron Pharmaceuticals, Inc. (13)
10.25	Stock Purchase Agreement, dated as of May 30, 2020 by and between the Company and Regeneron Pharmaceuticals, Inc. (13)
10.26	Corporate Bonus Plan, effective April 3, 2020 (14)
10.27†	Amendment #3 to License and Collaborative Research Agreement, dated as of June 14, 2021, by and between the Registrant and Novartis (16)
10.28†*	Agreement and Plan of Merger, by and among Intellia Therapeutics, Inc., Rewrite Therapeutics, Inc., RW Acquisition Corp., and Shareholder Representative Services, LLC, as securityholder representative, dated as of February 2, 2022
10.29*	Lease Agreement by and between the Registrant and Are-Winter Street Property, LLC, dated as of February 22, 2022
21.1*	Subsidiaries of the Registrant
23.1*	Consent of Deloitte & Touche LLP, Independent Registered Public Accounting Firm
31.1*	Certification of Chief Executive Officer pursuant to Rules 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2*	Certification of Chief Financial Officer pursuant to Rules 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1	Certifications pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of The Sarbanes-Oxley Act of 2002, by John M. Leonard, M.D., President and Chief Executive Officer of the Company, and Glenn Goddard, Executive Vice President, Chief Financial Officer of the Company (17)
101.INS*	Inline XBRL Instance Document.
101.SCH*	Inline XBRL Taxonomy Extension Schema Document.
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
104*	Cover Page Interactive Data File (formatted as inline XBRL with applicable taxonomy extension information contained in Exhibits 101*)

† Portions of this exhibit (indicated by asterisks) have been omitted pursuant to Item 601(b)(10) of Regulation S-K.
* Filed herewith.
# Indicates a management contract or any compensatory plan, contract or arrangement

(1) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 001-37766) filed with the Securities and Exchange Commission on May 17, 2016
(2) Incorporated by reference to the Registration Statement on Form S-1 (File No. 333-210689) filed with the Securities and Exchange Commission on May 5, 2016
(3) Incorporated by reference to the Registration Statement on Form S-1 (File No. 333-210689) filed with the Securities and Exchange Commission on April 27, 2016
(4) Incorporated by reference to the Registration Statement on Registrant's Quarterly Report on Form 10-Q (File No. 001-37766) filed with the Securities and Exchange Commission on May 6, 2021
(5) Incorporated by reference to the Registration Statement on Form S-1 (File No. 333-210689) filed with the Securities and Exchange Commission on April 11, 2016
(6) Incorporated by reference to the Registration Statement on Form S-1 (File No. 333-210689) filed with the Securities and Exchange Commission on April 12, 2016
(7) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 001-37766) filed with the Securities and Exchange Commission on April 17, 2018
(8) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q (File No. 001-37766) filed with the Securities and Exchange Commission on October 31, 2018
(9) Incorporated by reference to the Registrant's Annual Report on Form 10-K (File No. 001-37766) filed with the Securities and Exchange Commission on February 27, 2019
(10) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q (File No. 001-37766) filed with the Securities and Exchange Commission on May 2, 2019
(11) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 001-37766) filed with the Securities and Exchange Commission on April 9, 2020
(12) Incorporated by reference to the Registrant's Current Report on Form 10-Q (File No. 001-37766) filed with the Securities and Exchange Commission on May 7, 2020
(13) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 001-37766) filed with the Securities and Exchange Commission on June 1, 2020
(14) Incorporated by reference to the Registrant's Current Report on Form 10-Q (File No. 001-37766) filed with the Securities and Exchange Commission on August 6, 2020
(15) Incorporated by reference to the Registrant's Annual Report on Form 10-K (File No. 001-37766) filed with the Securities and Exchange Commission on February 27, 2020
(16) Incorporated by reference to the Registrant's Current Report on Form 8-K (File No. 001-37766) filed with the Securities and Exchange Commission on June 17, 2021
(17) The certifications furnished in Exhibit 32.1 hereto are deemed to accompany this Annual Report on Form 10-K and will not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended. Such certifications will not be deemed to be incorporated by reference into any filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, except to the extent that the Registrant specifically incorporates it by reference.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

INTELLIA THERAPEUTICS, INC.

By: /s/ John M. Leonard
John M. Leonard, M.D.
President and Chief Executive Officer

Dated: February 24, 2022

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the registrant in the capacities and on the dates indicated.

Name	Title	Date
/s/ John M. Leonard John M. Leonard, M.D.	President, Chief Executive Officer and Director *(Principal Executive Officer)*	February 24, 2022
/s/ Glenn Goddard Glenn Goddard	Executive Vice President, Chief Financial Officer *(Principal Financial and Accounting Officer)*	February 24, 2022
/s/ Fred Cohen Fred Cohen, M.D.	Director	February 24, 2022
/s/ John Crowley John Crowley	Director	February 24, 2022
/s/ Caroline Dorsa Caroline Dorsa	Director	February 24, 2022
/s/ Jean François Formela Jean François Formela, M.D.	Director	February 24, 2022
/s/ Jesse Goodman Jesse Goodman, M.D.	Director	February 24, 2022
/s/ Georgia Keresty Georgia Keresty	Director	February 24, 2022
/s/ Frank Verwiel Frank Verwiel, M.D.	Director	February 24, 2022

Execution Copy

EXHIBIT 10.16

CONSENT TO ASSIGNMENTS, LICENSING AND COMMON OWNERSHIP AND INVENTION MANAGEMENT AGREEMENT FOR A PROGRAMMABLE DNA RESTRICTION ENZYME FOR GENOME EDITING

UC Case No: BK-2012-115
CRISPR Reference: CHARPENTIER-2012
Caribou Reference: UC-UV Agreement

This Consent to Assignments, Licensing and Common Ownership and Invention Management Agreement for a Programmable DNA Restriction Enzyme for Genome Editing (the "Invention Management Agreement," "IMA" or "Agreement") is effective as of December 15, 2016 (the "Effective Date"), and is by and among the following individual and entities:

Dr. Emmanuelle Charpentier, an individual having an address at the Max Planck Institute for Infection Biology, Department of Regulation in Infection Biology, Chariteplatz 1, 10117 Berlin, Germany, ("Charpentier");

The Regents of the University of California, a California public corporation, having its statewide administrative offices located at 1111 Franklin Street, Twelfth Floor, Oakland, CA 946075200, United States, acting through its Office of Technology Licensing, at the University of California, Berkeley, 2150 Shattuck Avenue, Suite 510, Berkeley, CA 94704-1347, United States ("Regents");

University of Vienna, having an address at Universitatsring 1, A-1010 Vienna, Austria, acting through its office of Research Services and Career Development, University of Vienna, Berggasse 7, 2nd floor, 1090 Vienna, Austria ("Vienna");

CRISPR Therapeutics AG, a Swiss company (Aktiengesellschaft) having an address at Aeschenvorstadt 36, CH-4051 Basel, Switzerland ("CRISPR");

ERS Genomics Ltd., a limited liability company incorporated in Ireland and having an address at 88 Harcourt Street, Dublin 2, Ireland ("ERS");

TRACR Hematology Ltd., a limited liability company incorporated in England & Wales and having an address at 85 Tottenham Court Road, London W1T 4TQ, United Kingdom ("TRACR");

Caribou Biosciences, Inc., a Delaware corporation, having an address at 2929 7th Street, Suite 105, Berkeley, CA 94710, United States ("Caribou"); and

Intellia Therapeutics, Inc., a Delaware corporation, having an address at 40 Erie Street, Suite 130, Cambridge, MA 02139, United States ("Intellia"); each of the foregoing is individually referred to as a "Party" to this Agreement, and collectively as "Parties" to this Agreement.

1.
BACKGROUND AND RECITALS

a. As set forth herein, all the Parties have certain interests in the patents and patent applications defined and set forth in Exhibit A (the "Patent Applications"), including technologies and/or products described or claimed in the Patent Applications (the "Inventions"), whether as inventor(s) and/or co-inventor(s), assignee(s), and/or licensees.

b. Charpentier has certain rights in the Patent Applications as an inventor and/or co-inventor thereof and has not assigned her rights in the Patent Applications to any entity or institution, such rights being referred to herein as "Charpentier's Rights." Charpentier has delegated her rights with respect to the development, management and enforcement of the Patent Applications (individually and collectively "Invention Management Rights") to CRISPR and ERS. In particular, Charpentier has delegated to CRISPR Invention Management Rights (including without limitation her rights of invention management under this Agreement as well as certain corresponding obligations including without limitation the duty to pay costs and fees associated with the Patent Applications and related proceedings), except for certain Patent Applications for which ERS has been delegated Invention Management Rights by Charpentier ("ERS Patent Delegation" and "ERS-Delegated Patent Applications," each as described in Exhibit B). Each of CRISPR and ERS is referred to herein as a "Charpentier Delegee" and collectively as the "Charpentier Delegees." (For clarity, Charpentier has not delegated to TRACR any Invention Management Rights and TRACR is not a Charpentier Delegee.)

c. Charpentier has exclusively licensed her commercialization rights in the Patent Applications, including her rights to commercialize products and methods described and/or claimed in the Patent Applications, to CRISPR, ERS and TRACR (pursuant to the "CRISPR License," the "ERS License" and the "TRACR License"), each of CRISPR, ERS and TRACR being individually and collectively the "Charpentier Licensee(s)" and each of the CRISPR License, the ERS License and the TRACR License, being individually and collectively the "Charpentier License(s)," each Charpentier License being subject to Charpentier's retained non-transferable right, without the right for Charpentier to license or sublicense, for her to use the Inventions for her own research purposes and in her own non-commercial research collaborations to which she is party.

d. Regents has certain rights in the Patent Applications as a co-owner by virtue of assignments (the "Assignments to Regents") of any and all rights, title and interests of the following inventors and/or co-inventors in the Patent Applications (either directly, or through the Howard Hughes Medical Institute ("HHMI") in the case of certain rights of Jennifer Doudna, Martin Jinek and Wendell Lim): Jennifer Doudna, Martin Jinek, James H. Doudna Cate, Wendell Lim and/or Lei S. Qi (the "Regents Assignors"), such rights being referred to herein as "Regents' Rights."

e. Vienna has certain rights in the Patent Applications as a co-owner by virtue of an assignment (the "Assignment to Vienna") of any and all rights, title and interest of inventor and/or co-inventor Krzysztof Chylinski in the Patent Applications (the "Vienna Assignor"), such rights being referred to herein as "Vienna's Rights."

f. Regents' Rights are subject to obligations to HHMI, and any license or sublicense to the Regents' Rights is subject to obligations to HHMI, including HHMI's paid-up, non-exclusive, irrevocable license to use the Inventions for research purposes ("HHMI's Retained Rights"), Regents' Rights also are subject to the U.S. Government rights, as described in 35 U.S.C. §§ 200-212, and Regents' Rights and Vienna's Rights are subject to a retained right to practice the Inventions on their own behalf and allow other educational and non-profit institutions to use the Inventions for research and educational purposes.

g. Regents represents its own interests with respect to Invention Management Rights in the Patent Applications, and Regents has also been authorized by Vienna (under an "Inter-Institutional Agreement," attached hereto as Exhibit D) to take the lead in management of patent prosecution and licensing with respect to the Patent Applications on behalf of Vienna, and such Inter-Institutional Agreement is not affected by provisions of this Agreement.

h. Regents and Vienna have exclusively licensed their commercialization rights in the Patent Applications pursuant to an agreement with Caribou (the "Caribou License"), and Caribou has granted a sublicense of certain of its rights in a defined field of human therapeutics to Intellia (the "Intellia Sublicense"), the Caribou License and the Intellia Sublicense being individually and collectively the "Regents License(s)," and Caribou and Intellia being individually and collectively the "Regents Licensee(s)." Regents Licenses are not affected by any provision of this Agreement and, in the exercise of rights and performance of obligations under this Agreement, Regents and Regents Licensees shall comply with all obligations in Regents Licenses.

i. Additionally, Caribou, Intellia and the Charpentier Licensees have granted sublicenses to the Patent Applications to other third parties, who are not parties to this Agreement.

j. Charpentier, Regents and Vienna are individually referred to as a "Co-Owner" and collectively as the "Co-Owners." Charpentier's Rights, Regents' Rights, and Vienna's Rights are collectively referred to as the "Patent Rights." Each of Regents and CRISPR, or any of their authorized representatives, is sometimes individually referred to herein as an "Invention Manager" and collectively referred to herein as the "Invention Managers"; provided, however, that ERS shall be the Invention Manager in the stead of CRISPR with respect to ERS-Delegated Patent Applications and, in the case of ERS-Delegated Patent Applications, shall be deemed to be an Invention Manager together with Regents in connection with the procedures set forth under Section C-1.3(b) and mediation or arbitration under Section D-1.2. Each of CRISPR, ERS, TRACR, Caribou and Intellia is sometimes individually referred to herein as a "Licensee" and multiply or collectively referred to herein as "Licensees," and their licenses (i.e. the Charpentier Licenses and the Regents Licenses) are sometimes individually, multiply or collectively referred to herein as "License(s)."

WHEREAS, it has been and it remains the mutual desire of the Parties to enter into this Agreement to cooperate regarding development and management of the Patent Rights and to

facilitate the full commercial exploitation of their rights in the Patent Applications, including by permitting the licensing and sublicensing of the same in order to develop and market products based upon or employing the Inventions both in the United States and in other jurisdictions worldwide;

NOW, THEREFORE, and in consideration of the commitments provided herein, the Parties agree as follows:

2.
CONSENT TO ASSIGNMENTS, LICENSING AND MAINTENANCE OF COMMON OWNERSHIP INTERESTS

a. CONSENT TO ASSIGNMENTS

i. Charpentier consents, retroactively to the greatest extent required and permitted by applicable laws in the jurisdictions in which the Patent Applications have been filed, to the Assignments to Regents by Regents Assignors, in each case without application of any rights of accounting, compensation or remuneration or other consideration, reporting, notification, assignment "buy-in" rights (e.g., rights of pre-emption), or other rights or qualifications reserved in connection with such assignments under applicable laws or governmental regulations (such rights collectively referred to as "Rights Arising in Connection with Assignments"). To the extent that such consent to the Assignments to Regents cannot be applied retroactively in certain jurisdictions in which the Patent Applications have been filed, and/or additional documentation or assistance is required in order to perfect such assignments of rights, Charpentier agrees to assist Regents as reasonably required and at its expense in the perfection of such assignments.

ii. Charpentier consents, retroactively to the greatest extent required and permitted by applicable laws in the jurisdictions in which the Patent Applications have been filed, to the Assignment to Vienna by the Vienna Assignor, in each case without application of any Rights Arising in Connection with Assignments. To the extent that such consent to the Assignment to Vienna cannot be applied retroactively in certain jurisdictions in which the Patent Applications have been filed, and/or additional documentation or assistance is required in order to perfect such assignments of rights, Charpentier agrees to assist Vienna as reasonably required and at its expense in the perfection of such assignment.

iii. Going forward, and subject to any restrictions provided for in the Inter-Institutional Agreement with respect to Vienna and Regents (which shall only have effect as between Vienna and Regents), each Co-Owner permits each other Co-Owner to assign its interests in the Patent Applications without application of any Rights Arising in Connection with Assignments, provided that (a) no assignment shall be permitted to be made to an Adverse Claimant (as defined in Section C-1.3) except by mutual agreement of all of the Co-Owners, and (b) any assignee(s) must fully assume and agree to be bound by all of the assignor's obligations under this Agreement, to which they shall become a signatory, in connection with which, each other Co-Owner shall be deemed to have consented to such assignment (to the extent necessary in accordance with applicable laws in the jurisdictions in which the Patent Applications have been filed) and shall provide any additional documentation or assistance required in order to perfect such assignment of rights, and assist as

reasonably required by the assignor, at the assignor's expense, in the perfection of such assignment.

b. **CONSENT TO LICENSING AND SUBLICENSING**

i. The Co-Owners provide the following consents: (a) Charpentier consents (i) to Regents' and Vienna's grant of a license to Caribou under Regents' Rights and Vienna's Rights to research, develop, make, have made, use, sell, have sold, offer for sale, import and practice (individually and collectively to "Commercialize") Inventions, subject to any limitations and qualifications contained in the Caribou License, and (ii) to Caribou's grant of a sublicense of certain of its rights to Intellia, subject to any limitations and qualifications contained in the Intellia Sublicense, and to any further grants of sublicenses pursuant to the Caribou License or the Intellia Sublicense; (b) Regents and Vienna consent to Charpentier's grant of licenses to CRISPR, TRACR and ERS under Charpentier's Rights to Commercialize Inventions, subject to any limitations and qualifications contained in the CRISPR License, the TRACR License and the ERS License, respectively, and consent to any sublicenses granted pursuant to the Charpentier Licenses, and to any further grants of sublicenses pursuant to such licenses or sublicenses; (c) all of the Co-Owners agree that going forward, each of the Co-Owners may provide licenses under their rights in the Patent Applications and/or transfer or otherwise modify such licenses without requirement for any further consent of the other Co-Owners; (d) each licensee of a Co-Owner and each of their sublicensees shall be entitled to sublicense through multiple tiers, subject to any restrictions provided in their individual licenses and/or sublicenses and/or the Inter-Institutional Agreement with respect to Vienna and Regents, and provided that for each license or sublicense of Regents' rights, such license or sublicense shall include licensing terms as are required pursuant to the Regents' agreement with HHMI; and (e) except as explicitly provided herein no accounting, compensation or remuneration or other consideration, reporting, or notification, is owed, or shall be owed, by one Co-Owner or by its licensees or sublicensees to the other Co-Owners or to their licensees or sublicensees for prior or future licensing and sublicensing of the Patent Applications; provided that in connection with the foregoing consents by the Co-Owners under (a-d), each Co-Owner does not by virtue of this Section B-2.1 consent to any licensing, sublicensing or transfer of the Patent Rights by the other Co-Owners or their licensees or sublicensees, past or future, to an Adverse Claimant (as defined in Section C-1.3), with respect to any Patent Rights, other than in accordance with the provisions set forth in Section C-1.3(b); and provided further that if any of the preceding consents cannot be granted prospectively in any particular jurisdiction in which the Patent Applications have been filed, and/or additional documentation or assistance is required in connection with approval of such licenses and sublicenses, each Co-Owner and (if applicable) other Party agrees to provide such consents when and as required, [***] in connection with the approval of such licenses or sublicenses.

ii. The foregoing consents, to the extent they apply to licenses or sublicenses already provided ("Preexisting Licenses and Sublicenses"), shall be deemed to apply retroactively to the greatest extent permitted by applicable laws in the jurisdictions in which the Patent Applications have been filed, in each case without application of any rights of Co-Owners with respect to accounting, compensation or remuneration or other consideration, reporting, notification, or other rights or qualifications reserved in connection with such licenses under applicable laws or governmental regulations. To the extent that such consent to the Preexisting Licenses and Sublicenses cannot be applied retroactively in certain jurisdictions in which the Patent

Applications have been filed, and/or additional documentation or assistance is required in connection with approval of such licenses or sublicenses, each Co-Owner and (if applicable) other Party agrees to provide such consents when and as required, [***] in connection with the approval of such licenses and sublicenses.

iii. Subject to the foregoing and with regard to exclusivity, Regents and/or Vienna and/or their licensees or sublicensees are permitted to have granted and to grant licenses and sublicenses that are "exclusive" (whether in general or by a field of the Patent Rights (a "Field") or territory for example) by such licensor(s) solely as to rights held by them, and Charpentier's consent to such license(s) and sublicense(s) as provided herein shall neither exclude nor limit Charpentier's or Charpentier's Licensees' rights to practice and/or Commercialize Inventions (including without limitation the granting of licenses and sublicenses through multiple tiers as contemplated in this Section B-2); and similarly Charpentier and/or her licensees or sublicensees are permitted to have granted and to grant licenses that are exclusive by such licensor(s) as to rights held by them, and Regents' and Vienna's consents to such license(s) as provided herein shall neither exclude nor limit Regents' or Vienna's or Regents Licensees' rights to practice and/or Commercialize Inventions (including without limitation the granting of licenses and sublicenses through multiple tiers as contemplated in this Section B-2. The resulting holders of licenses or sublicenses with overlapping or co-extensive exclusive scope (whether in general or by particular field or territory for example) originating from both Regents and Vienna on the one hand and Charpentier on the other hand are regarded as co-exclusive licensee(s) or sublicensee(s) ("Co-Exclusive Licensee(s)") for purposes of this Agreement. For the avoidance of doubt, such Co-Exclusive Licensee(s) shall be free (to the extent empowered by their own rights) to practice and/or Commercialize Inventions but shall not be required to enter into agreements among themselves and/or with current or prospective licensees or sublicensees to effectively provide individual licensees and/or sublicensees with additional levels of exclusivity or co-exclusivity by such mutual agreements.

c. **MAINTENANCE OF COMMON OWNERSHIP INTERESTS**

i. It is the understanding and intent of the Co-Owners that the Patent Applications have been and will continue to be jointly owned among them regardless of inventorship, which understanding and intent are reflected in the following provisions:

1. [***].

2. [***].

3. Each Party hereby consents to, if and to the extent required in any and all applicable jurisdictions, and agrees to provide any required assistance to the Co-Owner(s) to enable them to provide the applicable assignment or license to the Co-Owners jointly in accordance with Section B-3.1(b)(i) and (ii), respectively.

d. **RESPONSIBILITIES AND COOPERATION OF CO-OWNERS**

i. The responsibilities of Charpentier, UC and Vienna in their capacities as Co-Owners are as defined in this Part B. Charpentier, UC and Vienna shall execute any documents (including without limitation terminal disclaimers) and provide any assistance in their capacities

as Co-Owners as may be required in order to effectuate the Invention Management Activities jointly approved by the Invention Managers, or alternatively through dispute resolution, as described in Part C and Section D-1, respectively.

e. **PROMOTION OF SCIENCE**

i. A common goal of the Parties is to promote the progress of science and the useful arts, and nothing in this Agreement is intended to impair or prevent the Parties from licensing, sublicensing and/or assigning the Inventions in a manner that does so.

3. INVENTION MANAGEMENT ACTIVITIES

a. **DEVELOPMENT AND DEFENSE OF THE PATENT APPLICATIONS**

i. The Invention Managers will cooperate in good faith regarding the development and defense of the Patent Applications, including without limitation filing, prosecution, issuance, and maintenance of Patent Applications, as well as interferences, oppositions, reissues, reexaminations, derivations, inter partes reviews, post-grant reviews, and other post-grant proceedings in the U.S. or foreign patent offices involving any Patent Applications; revocation, cancellation, or nullity actions involving any Patent Applications that do not involve issues of infringement; and patent term restorations, patent term adjustments and patent term extensions involving any Patent Applications (individually and collectively the "Patent Activities"); provided, however, that in no event will a Party be required to join as a named party in any suit, counterclaim or other proceeding, absent a separate written agreement, into which a Party in its sole discretion may enter.

ii. Regents, on behalf of itself and Vienna, shall have the right to appoint one U.S. law firm for U.S. prosecution and for developing and transmitting instructions to foreign counsel (as provided below), and one U.S. interference law firm in connection with the shared rights of the Patent Applications ("Regents Co-Counsel"). CRISPR, on behalf of itself and Charpentier and ERS, shall have the right to appoint one U.S. law firm for U.S. prosecution and for developing instructions to be transmitted by Regents Co-Counsel to foreign counsel (as provided below), and one U.S. interference law firm in connection with the shared rights of the Patent Applications ("Charpentier Co-Counsel"); provided, however, that in connection with the prosecution of ERS-Delegated Patent Applications and/or interference proceedings directed to ERS-Delegated Patent Applications, ERS, on behalf of itself and Charpentier and CRISPR, shall have the right to appoint one U.S. law firm for U.S. prosecution and for developing instructions to be transmitted by Regents Co-Counsel to foreign counsel (as provided below) and/or one U.S. interference law firm in connection with the shared rights of such Patent Applications ("ERS Co-Counsel"). Each of these law firms is referred to individually and collectively as "Co-Counsel." If any of Regents, ERS or CRISPR is an Abandoning Party, as set forth in Section C-1.5, then such Abandoning Party shall lose its rights under this Section C-1.2 to appoint its Co-Counsel with respect to such Non-elected Patent or Non-elected Application (as defined in Section C-1.5), and only the Prosecuting Party may appoint counsel to represent its interests in connection with such particular Patent Rights. In all cases, the Party entitled to appoint Co-Counsel shall have the right to replace its Co-Counsel at any time in its sole discretion or to have one law firm for both U.S. prosecution and U.S.

interference matters. Co-Counsel will be directed by the Invention Managers and shall confer and endeavor to reach positions in furtherance of the Patenting Objectives (as defined in Section C-1.4(b)) regarding the shared Patent Activities, including without limitation agreeing with respect to Regents Co-Counsel instructions to a single foreign counsel in each applicable jurisdiction outside of the United States. Drafts, submissions, and correspondence and any supporting documents or information pertaining thereto relating to Patent Activities ("Prosecution Matters") will be supplied to, or made available to be reviewed, by all Parties and Parties counsel (or, in the case of Prosecuting Parties pursuant to Section C-1.5, the Parties having rights in such cases and their counsel), if permitted pursuant to their License, provided that such communications being deemed (unless otherwise expressly provided by the participating Parties) to be Common Interest Information as defined in, and subject to, the CLIA (as defined in Section D-4.1). Co-Counsel shall consider and respond in good faith to timely received comments or questions from the Parties or their counsel regarding the Patent Activities. Final submissions in any Prosecution Matter will be dependent upon approval by the Invention Managers (or, in the case of Prosecuting Parties pursuant to Section C-1.5, the Parties having rights in such cases), subject to the procedures of Section C-1.4 in the event of a failure to reach agreement on a particular course of action.

iii. Certain third parties have filed and are pursuing patent applications identified in Exhibit E that claim one or more of the Inventions (such third parties and their exclusive licensees being individually and collectively referred to as "Adverse Claimants" and such patent applications and/or resulting patents and their foreign counterparts being individually and collectively referred to as "Adverse Filings"). In connection with the Adverse Claimants' pursuit of Adverse Filings in the United States, one or more patent interferences may be declared between or among one or more Patent Applications and one or more patents and/or patent applications comprising Adverse Filings, a first interference (Interference No. 106,048) having recently been declared in connection with the first issued U.S. patents comprising Adverse Filings. In addition, other adverse procedures or proceedings have already occurred and/or may occur in the United States and/or in other jurisdictions, including without limitation: (i) application of the Adverse Filings as allegedly anticipating and/or rendering obvious inventions claimed in the Patent Applications, (ii) challenges by Adverse Claimants as to the patentability of one or more aspects of the Patent Rights, (iii) challenges by or assertions made by the Invention Managers as to priority of invention and/or patentability of one or more aspects of the Patent Applications vis-a-vis the Adverse Filings, and/or (iv) challenges undertaken by the Invention Managers as to priority of invention and/or patentability of the Adverse Filings (individually and collectively "Adverse Proceedings"). In order to coordinate the Patent Activities and promote the development and defense of the Patent Applications and/or the Patent Rights vis-a-vis certain patent applications filed by third parties that purport to claim one or more of the Inventions, and in consideration of the other commitments and obligations undertaken by the Parties to this Agreement, the Parties acknowledge and agree as follows:

1. In the event that the Invention Managers are successful in one or more of such Adverse Proceedings they undertake, and/or the Invention Managers elect to settle one or more of such Adverse Proceedings, they shall establish terms of compensation by the Adverse Claimants and any of their licensees [***];

2. The Parties acknowledge and agree that their commitments to each other under this Agreement, including without limitation the consents provided by each Co-Owner to Licenses

granted by other Co-Owner(s) and to sublicenses granted by other Co-Owner(s)' Licensee(s), in each case for the benefit of such other Co-Owner(s) and their licensee(s) and sublicensee(s) and without any additional accounting, compensation or remuneration or other consideration, reporting, or notification, the commitments to maintain common ownership regardless of inventorship, and the interests of the Parties and their respective licensee(s) and sublicensee(s) in the successful development and management of the Patent Applications and in the success of the Adverse Proceedings initiated by or asserted against the Co-Owners, are based in substantial part and dependent upon cooperation with respect to the Adverse Proceedings and coordination with respect to Adverse Filings that are expressly related to the patentability or validity of the Patent Rights (including without limitation potential settlement and/or licensing discussions), and further acknowledge and agree that their common interests with respect to the Adverse Proceedings and Adverse Filings could potentially become divergent and materially adverse to each other, and/or cooperation with respect to the Adverse Proceedings materially affected, in the event that a Party unilaterally (i.e., without inclusion or agreement of other affected or potentially affected Parties) pursued or entered into an agreement (which shall include written and oral, binding and non-binding contracts, licenses, term sheets, options and any other form of agreement that could be legally considered such) related to the Patent Applications or Adverse Filings with an Adverse Claimant (or an individual or entity holding some or all of an Adverse Claimant's proprietary interests in the Adverse Filings as a transferee or licensee with rights to grant licenses in the Adverse Filings) (a "Unilateral Transaction with Adverse Claimants") during the pendency of any Adverse Proceedings or their potential appeal, until the last final, non-appealable decision by an applicable court, agency, or similar binding dispute resolution organization making a determination regarding the last Adverse Proceeding (the "Term of the Adverse Proceedings"), and accordingly the Parties agree that they have not concluded and will only engage in such settlement, licensing or other discussions ("Resolution") related to or enter into a Unilateral Transaction with Adverse Claimants during the Term of the Adverse Proceedings as follows: (i) [***]; (ii) [***]; or (iii) [***]; provided further that, in each of these cases, the Parties engaged in the Resolution (the "Resolution Parties") [***]. For the avoidance of doubt, notwithstanding this Section C-1.3 or any other provision of this Agreement, other than a Unilateral Transaction with an Adverse Claimant during the Term of the Adverse Proceedings, each Party shall be free to enter into any agreement with an Adverse Claimant; and, further, with the exception of interferences involving the Patent Rights and the Adverse Filings, nothing in this Agreement shall prevent, or create a duty of coordination or cooperation upon, any Party from challenging the patentability, validity, enforceability or infringement of any Adverse Filing; and, further, that a licensee or sublicensee that is not a Party to this Agreement as defined on page 1 (or a majority-owned subsidiary or other commonly-controlled affiliate of such a Party), such as a non-Party sublicensee of one of the Parties to this Agreement, is not restricted in any way by, or subject to, Section C-1.3 of this Agreement;

3. Failure to adhere to any of the commitments and undertakings of this Section C-1.3 will be considered a material breach of this Agreement, for which any Party or Invention Manager may seek specific performance in accordance with the procedures of Section D-1.2; and

4. Notwithstanding anything to the contrary in this Agreement, and in view of the Parties' common goal expressed in Section B-5.1, nothing in this Agreement prevents, impairs or otherwise affects the ability of third-party beneficiary HHMI to enter into any agreement or arrangement relating to scientific research involving HHMI or any of its officers, employees and/or agents.

iv. If the Invention Managers or Prosecuting Parties cannot agree regarding cooperation or a proposed course of action as set forth in Sections C-1.1 through C-1.3, as applicable, or on a costs and fees estimate as set forth in Section C-2.1:

1. The Invention Managers will refer the disagreement to [***], or their equivalent, to discuss in a good faith attempt to resolve the disagreement; provided, however, that any resolution shall not breach the Invention Managers' respective Licenses without the prior written agreement from each Licensee that is a party to a License that would be breached.

2. If the Invention Managers still disagree after the discussion in Section C-1.4(a), they shall promptly and in good faith appoint mutually agreeable independent patent counsel ("Patent Rights Trustee") neutral to the Parties, who will make the decision [***] (individually and collectively the "Patenting Objectives"), and will consider, and to the extent reasonably advisable incorporate, the requests, comments, and suggestions of the Invention Managers. Regents on the one hand, and the Charpentier Delegee on the other hand shall each pay such Patents Rights Trustee directly for [***] of all costs and expenses incurred by the Patent Rights Trustee. The Invention Managers may, by mutual written agreement, replace the Patent Rights Trustee at any time.

3. If action has to be taken by a Co-Counsel appointed under Section C-1.2 in a short time frame in order to preserve rights, including without limitation making timely filings within an administrative proceeding, such Co-Counsel shall use all [***] efforts to immediately notify the Invention Managers and Patent Rights Trustee (if one has been selected), and, if due to time constraints it is not feasible to first obtain agreement of all Invention Managers or decision from the Patent Rights Trustee, if the Invention Managers have not agreed on a response, such Co-Counsel will take such action as is required to preserve those rights in light of the previously agreed objectives of the Invention Managers for that proceeding and the Patenting Objectives as specified in Section C-1.4(b).

v. If an Invention Manager elects to not pursue (through a decision to not nationalize or otherwise), to abandon, or to cease prosecution or maintenance of any Patent Application (each a "Non-elected Application" or "Non-elected Patent") in any country, either on a country-by-country basis or in connection with a divisional or other continuing Patent Application that an Invention Manager does not wish to support and share responsibility for associated expenses, such Invention Manager (the "Abandoning Party") will provide at least thirty (30) days' prior written notice to the other Invention Manager and all Parties of such intention to not pursue, to abandon, or to cease prosecution or maintenance, following which notification the Abandoning Party shall be under no continuing obligation to share in future corresponding costs and expenses as provided under Section C-2. Following such written notification, the other Invention Manager (the "Prosecuting Party") may elect to pursue or continue prosecution of and/or maintenance of the Non-elected Patent/Non-elected Application at its sole cost and expense and the Abandoning Party (and its licensees and any sublicensees) shall have no rights in the Non-elected Patent/Non-elected Application, subject only to Regents' and Vienna's retained right to allow non-profit entities to use the Inventions for research and educational purposes, and further, with respect to Regents, subject to the rights of HHMI and the U.S. Government, if applicable, as provided in Section A-6, and Charpentier's retained right with respect to research activities of Charpentier as provided in Section A-3.

1. During the [***] phase of [***], Regents and CRISPR as Charpentier Delegee jointly elected certain non-U.S. countries in which to pursue regional or national phase counterparts (the "Jointly Elected Jurisdictions" as identified in Exhibit F); and CRISPR as Charpentier Delegee elected certain additional jurisdictions in which to pursue regional or national phase counterparts that Regents did not elect to enter (the "Additional Jurisdictions" as identified in Exhibit F). Regents has a one-time option to add the Additional Jurisdictions, exercisable during the [***] period following the Effective Date of this Agreement, by written notification to CRISPR, provided that Regents shall upon exercise be responsible for [***] of all costs and fees incurred in connection with the Additional Jurisdictions at the time of exercising the option, and shall be responsible for [***] of such costs and fees on an ongoing basis.

2. In the event that Regents does not exercise the option to add the Additional Jurisdictions, then CRISPR as Charpentier Delegee will be responsible for [***] of the costs and fees incurred in connection with the Additional Jurisdictions and only Charpentier, CRISPR and other Charpentier Licensees and their sublicensees will have patent rights in such non-elected Additional Jurisdictions; provided, however, that the Charpentier Delegee shall apprise the other Invention Manager of any newly-cited art and any new arguments (i.e., those that are not substantially repetitive of or consistent with arguments already made in connection with Patent Activities) to be made in connection with such Additional Jurisdiction patent applications and patents, and provide at least [***] advance written notice with a copy of such proposed arguments so that the other Invention Managers have an opportunity to review and provide suggestions regarding said proposed arguments.

vi. Notwithstanding any other provision of this Agreement, no Invention Manager may abandon the prosecution or the maintenance of any of the Patent Applications without giving prior written notice to the other Invention Manager. Furthermore, and for the avoidance of doubt, the provisions of Section C-1.5 shall not relieve any Party of any additional procedural requirements or other obligations it may have to its licensor(s) with respect to the abandoning or ceasing of prosecution or maintenance of any Patent Application pursuant to its License or otherwise.

vii. Applications for patent term extension, patent term restoration, SPCs (as defined in Exhibit C), and listing in regulatory publications (such as the FDA Orange Book and any foreign equivalent) will be at the sole discretion of the Party whose approved product, or whose licensee's or sublicensee's approved product, is first proposed and statutorily ready to be relied upon for such filings in a particular jurisdiction, after written notice to the other Parties. Any other Party will promptly execute any documents reasonably required to effect such applications.

b. **COST SHARING**

i. The Invention Managers will discuss and agree on expected costs and fees of Regents Co-Counsel performing Patent Activities in accordance with the Patenting Objectives, based on [***] estimates of Regents Co-Counsel, and will establish and deliver to Caribou a corresponding budget for Patent Activities, which will be updated [***] in consultation with Regents Co-Counsel, subject to the procedures of Section C-1.4 in the event of a failure to reach agreement. Regents Co-Counsel shall notify the Invention Managers if the costs and fees are expected to exceed an approved [***] budget and will confer and agree on any updates to the [***]

budget, also subject to the procedures of Section C-1.4 in the event of a failure to reach agreement. Regents Co-Counsel shall use reasonable efforts not to exceed [***] budgets or updates, but the Parties recognize that it is impossible to predict with accuracy or control how Patent Activities will progress, or the costs and fees that will be required to accomplish necessary tasks, and accordingly, notwithstanding any budget limitations, Regents Co-Counsel shall take such action as Regents Co-Counsel deems necessary in light of the previously-agreed objectives of the Invention Managers for a proceeding and the Patenting Objectives. Budgets and updates will be made available for review by all Parties and shall be deemed to be Common Interest Information (as defined in the CLIA).

ii. If and to the extent it has not already done so, CRISPR will pay [***] of costs and fees associated with the Additional Jurisdictions within [***] of the Effective Date. CRISPR will pay [***] of such total within [***] (a) Regents' decision to not exercise its option with respect to such Additional Jurisdictions under Section C-1.5(a), or (b) the termination of the option period. Within [***] of the exercise of its option with respect to such Additional Jurisdictions under Section C-1.5(a), Regents will pay [***] of costs and fees associated with the Additional Jurisdictions.

iii. In accordance with, and subject to, a separate agreement by and between CRISPR and Caribou ("Cost-Sharing Agreement," attached hereto as Exhibit G) that will be executed contemporaneously with the execution of this Agreement, CRISPR, on its behalf and on behalf of Charpentier and ERS, agrees to reimburse, in the amounts set forth in the Cost-Sharing Agreement, Caribou for costs and fees associated with Patent Activities performed or to be performed by Regent Co-Counsel that Caribou has paid, or is required to pay Regents under the Caribou License. CRISPR and Caribou will promptly provide the Parties with any amendments to the Cost-Sharing Agreement. Any material breach by CRISPR or Caribou of the Cost-Sharing Agreement also shall constitute a material breach of this Agreement. For avoidance of doubt, other than as set forth in the Cost-Sharing Agreement or in their respective Licenses or by separate written agreement, no Party shall be responsible for paying the costs or fees of another Party's counsel.

iv. In any country and/or for any divisional or continuing application, for which only one Invention Manager undertakes Patent Activities pursuant to Section C-1.5, the corresponding expenses and fees shall be [***], in accordance with Section C-1.5.

c. **RECORDS AND REPORTS**

i. Regents shall keep complete, true, and accurate accounts of all expenses and shall permit the other Invention Manager to allow its agents or a certified public accounting firm that is reasonably acceptable to Regents to examine its books and records, and those of its underlying billers in the case of rebilling, in order to verify the payments owing under this Agreement. The requesting Invention Manager shall pay the cost of each examination and shall request no more than [***] examination per [***], unless an examination shall reveal a discrepancy of greater than [***], in which case Regents shall pay the cost of examination and the requesting Invention Manager shall be entitled to request [***] examinations.

ii. No less than [***] each [***] during the Term, Regents Co-Counsel responsible for Patent Activities, which as of the Effective Date of this Agreement is [***], shall deliver to the

Invention Managers and Licensees a written report setting forth the status of all Patent Applications; provided, however, if Regents are an Abandoning Party pursuant to Section C-1.5, then the Prosecuting Party(ies)' counsel shall deliver to Regents a written report setting forth the status of the Non-elected Application(s) or Non-elected Patent also at no less than [***] each [***] during the Term.

d. **PATENT INFRINGEMENT**

i. In the event that an Invention Manager or other Party (to the extent of the actual knowledge of the licensing professional responsible for administration of this Agreement) learns of the infringement of any of the Patent Rights that it deems to be substantial ("Substantial Infringement"), such Invention Manager or other Party shall promptly notify all of the other Parties of such infringement by providing written evidence of the infringement ("Infringement Notice").

ii. If the efforts of the Invention Managers and/or other Parties, individually or jointly, are not successful in abating such infringement within [***] after the Infringement Notice is sent, then each Invention Manager may (subject, in the case of Vienna, to limitations undertaken in connection with the Inter-Institutional Agreement between Vienna and Regents; and, in the case of all Parties, subject to any rights, limitations and obligations that a Party may have in its License):

1. [***]; and/or

2. [***]; and/or

3. [***].

Notwithstanding the foregoing, in the event that a statute, regulation, or other legal provision (such as, for example, the Drug Price Competition and Patent Term Restoration Act (Hatch-Waxman), as amended, the Biologics Price Competition and Innovation Act, amended, or similar laws outside of the United States) require that an infringement or similar action be commenced prior to the [***] period set forth above, the [***] period will be shortened to effectively be [***] prior to the final deadline imposed by the applicable legal requirement. Within [***] days after the Infringement Notice, the Party seeking to shorten the [***] period due to an applicable legal requirement shall inform the other Parties of the need and basis for shortening the time period. A Party will immediately forward to the other Parties any and all notices of infringement received pursuant to such regulatory procedures.

iii. [***].

iv. A legal action brought pursuant to Section C-4.2 ("Legal Action") will be at the full expense of [***], and all recoveries obtained as a result of any Legal Action, whether by settlement or otherwise, will be shared according to the following order: (a) reimbursement of all costs [***]; provided that any separate agreements between particular Parties and their licensee(s) or sublicensee(s) and/or Co-Exclusive Licensee(s) related to the potential sharing of amounts received by them, and any separate agreements between Regents and HHMI related to sharing of costs, expenses and revenues, shall be unaffected by the foregoing terms of this Agreement.

v. [***].

4.
MISCELLANEOUS PROVISIONS

a. GOVERNING LAWS AND DISPUTE RESOLUTION

i. The scope and validity of any Patent Applications are governed by the applicable laws of the relevant jurisdiction to which the Patent Applications relate. This Agreement shall otherwise be governed by New York law, without regard to its conflict of laws principles; provided that all Parties shall be entitled to all defenses available to it under New York law and, additionally, Regents shall also be entitled to all defenses available to it under California law.

ii. Due to the nature and subject matter of this Agreement, as well as commitments already undertaken by the Parties or which may be undertaken by the Parties with respect to their licensees, and by their licensees with respect to sublicensees, a termination of this Agreement for material breach by another Party would not place the non-breaching Parties and/or their beneficiaries in the same or an equivalent position to that which they would be in without the breach. Accordingly, the Parties agree that specific performance is deemed to be the appropriate remedy in order to ensure that the Parties' respective commitments and obligations undertaken to each other, and for the further benefit of their licensees and sublicensees, be fulfilled as agreed to herein, absent the Parties' mutual agreement to another form of remedy or to an amendment to this Agreement. It is also the desire of the Parties to avoid the need to litigate in order to address any potential dispute between them regarding the subject matter of this Agreement, which would likewise be expected to be significantly disruptive to the interests of the Parties and to their preexisting and future commitments with respect to, and the activities of, their licensees and sublicensees. Accordingly, in the case of any dispute, claim or controversy arising under this Agreement, including any matter that is not resolved by the Parties and/or the Invention Managers, and/or the Patent Rights Trustee pursuant to the procedure specified in Section C-1.4, or in the event that the Invention Managers should be unable to reach agreement regarding the selection and appointment of a Patent Rights Trustee pursuant to Section C-1.4(b), or if the Patent Rights Trustee should be unable or unwilling to resolve a particular contested matter, each of the forgoing being an "Unresolved Dispute," then the Invention Managers shall participate in mediation designed to encourage them to settle the matter between them, and if the Invention Managers are unsuccessful in settling the matter through mediation, then the Invention Managers and other Parties shall submit the matter to binding arbitration which shall be directed to ensure that the Invention Managers' and other Parties' specific commitments and obligations to each other are fulfilled as originally agreed herein and with consideration of the Patenting Objectives as specified in Section C-1.4(b), unless the Invention Managers and other Parties mutually agree to waive or modify any particular commitments or obligations as provided herein. Mediation and arbitration shall be conducted in accordance with the rules and procedures as set forth in Exhibit H (Dispute Resolution); and for the avoidance of doubt, no Party shall initiate or pursue alternative legal proceedings or remedies in connection with an Unresolved Dispute other than according to the procedures as set forth in Section C-1.4, this Section D-1.2, and the accompanying Exhibit H.

iii. [***].

iv. Notwithstanding anything to the contrary in this Agreement, binding arbitration shall not be effective as to any interests (including, without limitation, rights or obligations) of

third-party beneficiary HHMI without HHMI's prior written consent to binding arbitration on a case-by-case basis.

b. **NOTICES**

i. Any notice required or permitted to be given to the Parties hereto is properly given if delivered, in writing, in person, sent by registered mail or courier, with copies by email (which shall not alone constitute notice), to the following addresses, or to such other addresses as may be designated in writing by the Parties from time to time during the term of this Agreement:

Prof. Dr. Emmanuelle Charpentier
Max Planck Institute for Infection Biology
Department of Regulation in Infection Biology
Chariteplatz 1
10117 Berlin
Germany
(with copies by email to: LEGAL@crisprtx.com and Legalnotices@ersgenomics.com)

CRISPR Therapeutics AG
Aeschenvorstadt 36
CH-4051 Basel
Switzerland
Attention: Chief Legal Officer
(with a copy by email to: LEGAL@crisprtx.com)

ERS Genomics Ltd.
88 Harcourt Street
Dublin 2
Ireland
(with a copy by email to: Legalnotices@ersgenomics.com)

TRACR Hematology Ltd.
85 Tottenham Court Road
London W1T 4TQ
United Kingdom
Attention: Chief Legal Officer
(with a copy by email to: LEGAL@crisprtx.com)

Regents of the University of California
Office of Technology Licensing
2150 Shattuck Avenue, Suite 510
Berkeley, CA 94704-1347
United States
Attention: Director
(Case No. BK-2012-115)

University of Vienna
Research Services and Career Development
Berggasse 7, 2nd floor
1090 Vienna
Austria
Attention: Vice-Rector for Research and International Affairs
(with a copy by email to: techtransfer@univie.ac.at)

Caribou Biosciences, Inc.
2929 7th Street, Suite 105
Berkeley, CA 94710
United States
Attention: Chief Legal Officer
(with a copy by email to: legalnotices@cariboubio.com)

Intellia Therapeutics, Inc.
40 Erie Street, Suite 130
Cambridge, MA 02139
United States
(with a copy by email to: NTLANOTICE@intelliatx.com)

ii. If Regents or Vienna terminates their Inter-Institutional Agreement, or if Charpentier, CRISPR or ERS materially change the rights or obligations of CRISPR or ERS as Invention Manager under this Agreement, they will promptly notify the other Parties of such change in writing, and the Parties agree to amend this Agreement if and as necessary to reflect such change.

c. **TERM AND TERMINATION**

i. This Agreement is in full force and effect from the Effective Date and remains in effect for the life of the last-to-expire patent or last-to-be-abandoned Patent Application, whichever is later (the "Term"), unless earlier terminated by operation of law or by agreement of the Parties.

d. **CONFIDENTIALITY AND COMMON INTEREST INFORMATION**

i. Subject to the California Public Records Act as it affects Regents, the Parties shall hold each other's confidential and/or proprietary business and patent prosecution information in confidence using at least the same degree of care as that Party uses to protect its own confidential and/or proprietary information of a like nature, and shall comply with their responsibilities under the Confidential Common Legal Interest and Nondisclosure Agreement, entered into as of [***], a copy of which is attached hereto as Exhibit I, as amended by the First Amendment to the Confidential Common Legal Interest and Disclosure Agreement [***] ("CLIA"), [***].

ii. Notwithstanding Section D-4.1, nothing in this Agreement in any way restricts or impairs the right of Parties to use, disclose, or otherwise deal with any information or data that:

1. recipient can demonstrate by written records was previously known to it;

2. is now, or becomes in the future, public knowledge other than through acts or omissions of recipient;

3. is lawfully obtained without restrictions by recipient from sources independent of the disclosing Party that were not under any obligations of confidentiality to the disclosing Party;

4. was made independently without the access to or use of proprietary information received hereunder as evidenced by contemporaneous written records; or

5. is required by law to be disclosed, provided the Party required to disclose notifies the other Parties promptly upon learning about any legal requirement that purports to compel disclosure and thereafter cooperates with and assists the nondisclosing Parties in the exercise of any rights to protect the confidentiality of all or portions of its confidential or proprietary information before any tribunal or governmental agency, and in the event disclosure is required to disclose only the minimum amount of information required to be disclosed.

iii. The confidentiality obligations of the recipient under these terms will remain in effect for [***] after the termination or expiration date of this Agreement.

iv. This Agreement may be disclosed by a Party on a confidential basis, under terms no less restrictive than Section D-4.1, to actual or potential contracting parties and advisors (i.e., actual or potential licensees, investors, acquirors, joint venturers and the like, and/or auditors, counsel and financial or other advisors), and as required by applicable law or governmental regulation.

e. **MISCELLANEOUS PROVISIONS**

i. Use of Names and Trademarks; Publicity. This Agreement does not confer any right to use any name, trade name, trademark, or other designation of any Party to this Agreement (including contraction, abbreviation, or simulation of any of the foregoing) in advertising, publicity, or other promotional activities, and the use of the name, "The Regents of the University of California" or the name of any campus of the University of California is prohibited in such contexts; provided that the Parties agree to cooperate to develop agreed forms of language for press release and related publicity that may be employed by the Parties in connection with this Agreement, to which Regents and other Parties agree to be named as a party in connection with this Agreement. The name, trade name, trademark, or other designation of HHMI in advertising, publicity or other promotional activities shall be not be used without HHMI's written consent.

ii. No Waiver or Amendment Other than in Writing. No provision of or right under this Agreement shall be deemed to have been waived or amended by any act or acquiescence on the part of any Party, or any of its licensees or sublicensees, directors, employees, consultants, advisors or agents, but only by an instrument in writing signed by an authorized representative of each Party. No waiver by any Party of any breach of this Agreement by another Party shall be effective as to any other breach, whether of the same or any other term or condition and whether occurring before or after the date of such waiver. The Parties irrevocably agree that this Agreement may only be amended by a writing executed by all of the Parties.

iii. No Implied License. This Agreement does not confer by implication, estoppel, or otherwise any license or rights under any patents of any Party other than the Patent Applications, regardless of whether such patents are dominant or subordinate to the Patent Applications.

iv. No Joint Venture, Partnership or Ability to Bind Other Parties. This Agreement does not create by implication or otherwise any joint venture or partnership between or among the Parties, nor does it confer any authority to bind another Party.

v. Terminology and Interpretation.

1. Headings and captions are for convenience only and are not be used in the interpretation of this Agreement.

2. The definitions of the terms herein shall apply equally to the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine, and neuter forms. The word "will" shall be construed to have the same meaning and effect as the word "shall." The word "any" shall mean "any and all" unless otherwise clearly indicated by context. The word "including" shall be construed as "including without limitation," whether or not the latter is expressly stated. The word "or" is disjunctive but not necessarily exclusive.

3. Unless the context requires otherwise, (i) any definition of or reference to any agreement, instrument, or other document herein shall 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 shall be construed as referring to such applicable laws as from time to time enacted, repealed, or amended, (iii) any reference herein to any person or entity shall be construed to include the person's or entity's successors and assigns, and (iv) all references herein to Parts, Sections, or Exhibits, unless otherwise specifically provided, shall be construed to refer to Parts, Sections, and Exhibits of this Agreement.

4. Each of the Parties acknowledges and agrees that this Agreement has been diligently reviewed by and negotiated by and between them, that in such negotiations each of them has been represented by competent counsel, and that the final agreement contained herein, including the language whereby it has been expressed, represents the joint efforts of the Parties and their counsel. Accordingly, in interpreting this Agreement or any provision hereof, no presumption shall apply against any Party as being responsible for the wording or drafting of this Agreement or any such provision, and ambiguities, if any, in this Agreement shall not be construed against any Party, irrespective of which Party may be deemed to have authored such provision.

vi. Complete Agreement. Other than the Inter-Institutional Agreement (Exhibit D), the CLIA (Exhibit I) and the Licenses, this Agreement (including Exhibits A, B, C, E, F, G, H and J) constitutes the entire agreement, both written and oral, by and among the Co-Owners, and all other prior agreements regarding the subject matter of this Agreement, both written and oral, express or implied, are hereby cancelled. For the avoidance of doubt, this Agreement does not affect any License. Additionally, as provided in Section A-6, Regents' Rights are subject to certain U.S. Government rights and also obligations to HHMI. Nothing in this Agreement affects such U.S.

Government rights. Nor does anything in this Agreement affect any rights or obligations as between HHMI and Regents under any other agreement, nor shall any assignment, license or sublicense granted pursuant to or as a result of this Agreement limit HHMI's Retained Rights. Any assignment, license or sublicense of Regents' Rights granted pursuant to or as a result of this Agreement shall, moreover, be reviewed by Regents or Regents Licensees, as appropriate, to ensure inclusion of HHMI's licensing terms.

vii. HHMI. HHMI is not a party to this Agreement and has no liability to the Parties under this Agreement or to any licensee, sublicensee or assignee of rights by virtue of this Agreement, but HHMI is an intended third-party beneficiary of, and has the right to enforce in its own name, any provision of this Agreement affecting HHMI. This Section D-5.7 shall survive any termination or expiration of the Agreement.

viii. Severability. All of the covenants and provisions of this Agreement are severable. In the event that any of these covenants or provisions shall for any reason be adjudged, decreed, or ordered by any arbitrator or court of competent jurisdiction to be invalid or unenforceable in any respect, such covenants or provisions shall be deemed modified to the extent necessary to render them valid and enforceable, while maintaining the expressed intention of the parties to the greatest extent permissible, and such judgment, decree, or order shall not affect, impair or invalidate any of the remaining covenants or provisions of this Agreement.

ix. Successors and Assignees. This Agreement shall be binding upon and shall inure to the benefit of the Parties and their respective acquirors, successors (including any personal successors by law or otherwise), permitted assignees, heirs, executors, transferees, administrators, receivers, or other corporate successors or representatives of the Parties.

x. Authority. Each Co-Owner (to the extent of actual knowledge of the licensing professional responsible for the administration of this Agreement as of the Effective Date, as applicable) represents and warrants that it currently owns the rights, title, and interest in and to the Patent Applications in order to carry out its undertakings to the other Parties and obligations hereunder. Each Party represents and warrants that this Agreement is legally binding upon such Party, enforceable in accordance with its terms, and does not conflict with any agreement, instrument or understanding, oral or written, to which such Party is currently bound. Each Party agrees that it will not enter into any agreement, instrument or understanding, oral or written, that is inconsistent with the terms of this Agreement.

xi. Counterparts. This Agreement may be executed in counterparts (whether delivered by facsimile, electronically by image or PDF or otherwise) with the same effect as if each Party had executed the same physical document. All such counterparts shall be deemed an original, shall be construed together and shall constitute one and the same instrument.

[Signature Page Follows]

The Parties hereto have executed this Agreement as of the Effective Date, as attested by the signatures below of authorized representatives of each Party.

DR. EMMANUELLE CHARPENTIER

Signature /s/ Emmanuelle Charpentier

Date December 15, 2016

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

Signature /s/ Javed Afzal

Name Javed Afzal

Title Associate Director

Date December 6, 2016

UNIVERSITY OF VIENNA

Signature /s/ Heinz Fassmann

Name Heinz Fassmann

Title Vice Rector for Research and International Affairs

Date December 6, 2016

CRISPR THERAPEUTICS AG

Signature /s/ Rodger Novak

Name Rodger Novak

Title CEO

Date December 13, 2016

ERS GENOMICS LTD.

Signature /s/ Derek O'Reilly

Name Derek O'Reilly

Title Director

Date December 6, 2016

TRACR HEMATOLOGY LTD.

Signature /s/ Tyler Dylan-Hyde

Name Tyler Dylan-Hyde

Title Chief Legal Officer

Date December 15, 2016

CARIBOU BIOSCIENCES, INC.

Signature /s/ Rachel E. Haurwitz

Name Rachel E. Haurwitz, Ph.D.

Title President and CEO

Date December 2, 2016

INTELLIA THERAPEUTICS INC.

Signature /s/ Nessan Bermingham

Name Nessan Bermingham

Title CEO and President

Date December 15, 2016

LIST OF EXHIBITS

Exhibit A to
Invention Management Agreement

Patent Applications

Patent Applications refer to any and all of the following:

(i) any of the following U.S. and PCT patent applications:

Patent Application Number	Filing Date	UC Case Number
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]

(ii) any U.S. patent application that claims priority to or common priority with any of the above-referenced patent applications, regardless of inventorship, including but not limited to, any divisions, continuations, or continuations-in-part thereof;

(iii) any non-U.S. patent applications claiming priority to or common priority with any of the above-referenced patent applications, or constituting the national phase counterparts of the above-referenced PCT application, as well as divisionals or continuations of such non-U.S. patent applications;

(iv) any U.S. or non-U.S. patents issued from any of the foregoing applications; and

(v) any reissues, renewals, substitutions, registrations, revalidations, reexaminations, patent term restorations, patent term extensions, patent term adjustments, supplementary protection certificates ("SPCs") and the like arising from any of the foregoing cases.

Exhibit B to
Invention Management Agreement

ERS Patent Delegation

ERS has been delegated certain invention management rights by Charpentier (the "ERS Patent Delegation") within the ERS field. The delegated rights are:

1. Prosecution and maintenance rights for Patent Applications that have applicability or utility exclusively in the ERS field ("ERS-Delegated Patent Applications") and has comment rights in respect of all other Patent Applications that have applicability or utility in the ERS field.

2. Patent enforcement rights in the ERS field for all Patent Applications including any Patent Applications that have applicability or utility in both the ERS and CRISPR/TRACR fields.

The ERS field is [***]. The CRISPR and TRACR fields means:

Researching, developing, making, using or selling:

(1) Therapeutic Products - [***], or

(2) Diagnostic Products - [***].

Companion Diagnostics means companion diagnostic tools and/or diagnostic assays developed and used to (i) [***], (ii) [***], and/or (iii) [***].

Covered Product means [***].

Covered Animal means an animal [***].

Covered Animal-Derived Product means [***].

Covered Method means any process or method, [***].

Invention means the invention entitled "[***]" as described in the Patent Applications, including all improvements thereto that are disclosed in the Patent Applications.

Technology means the Invention, the Patent Applications and certain know-how.

Exhibit C to
Invention Management Agreement

Definition of SPCs

"SPCs" refer to Supplementary Protection Certificates that extend patent terms based on regulatory filings for marketing authorization undertaken and approved in the United Kingdom (UK), countries of the European Union (EU) and the European Economic Area (EEA) and certain other countries in Europe including, but not limited to, Switzerland, and equivalents thereto available in other jurisdictions (including, but not limited to, Australia, Canada (effective with the Comprehensive Economic and Trade Agreement (CETA) implementation), Chile, Costa Rica, Israel, Japan, Russia and Commonwealth of Independent States (CIS) countries, Singapore, South Korea and Taiwan), as well as "pediatric extensions" to SPC terms available in the UK, EU/EEA and other countries, and other such patent term extensions currently available or which become available during the Term.

Exhibit D to
Invention Management Agreement

Inter-Institutional Agreement between The Regents of the University of California and University of Vienna (copy)

Exhibit E to
Invention Management Agreement

Adverse Claimants

The Adverse Claimants are the applicants and the direct, first-tier exclusive licensees of patent applications and/or issued patents claiming priority to or common priority with the applications identified below, which claim subject matter comprising all or portions of the Patent Rights:

Patent Application Number	*Filing Date / Claimed Priority Date*	*Inventors*	*Applicant(s) / Direct, First-Tier Exclusive Licensee(s) (known as of the Effective Date)*
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***] [***]	[***] [***]	[***] [***]	[***] [***]
[***]	[***]	[***]	[***]

and further including any U.S. patent application that claims priority to or common priority with such patent applications, regardless of inventorship, including but not limited to, any divisions, continuations, or continuations-in-part thereof; any non-U.S. patent applications claiming priority to or common priority with any of the above-referenced U.S. patent applications, or constituting the national phase counterparts of the above-referenced PCT application, as well as divisionals or continuations of such non-U.S. patent applications; and any U.S. or non-U.S. patents issued thereon; as well as reissues, renewals, substitutions, registrations, revalidations, reexaminations, patent term restorations, patent term extensions, patent term adjustments, SPCs arising from any of the preceding cases, and the like.

Exhibit F to
Invention Management Agreement

Non-U.S. Filings

The "Jointly Elected Jurisdictions" are the following:

[***]

The "Additional Jurisdictions" are the following:

[***]

Exhibit G to
Invention Management Agreement

Cost-Sharing Agreement

This Cost-Sharing Agreement ("Agreement"), having a date of December __, 2016 ("Effective Date"), is by and between CRISPR Therapeutics AG, having a corporate address at Aeschenvorstadt 36, CH-4051 Basel, Switzerland ("CRISPR"), and Caribou Biosciences, Inc., having a corporate address at 2929 7th Street, Suite 105, Berkeley, CA 94710 USA ("Caribou"). CRISPR and Caribou are each referred to as a "Party," and jointly as the "Parties."

WHEREAS, CRISPR and Caribou are parties to a Consent to Assignments, Licensing and Common Ownership and Invention Management Agreement for a Programmable DNA Restriction Enzyme for Genome Editing Agreement ("IMA"), to which this Agreement is attached as Exhibit G thereto and having the same date as this Agreement;

WHEREAS, pursuant to an Exclusive License Agreement, by and among Caribou, University of Vienna ("Vienna"), and The Regents of the University of California ("Regents"), dated April 16, 2013 ("Caribou License"), Caribou has been reimbursing and will continue to reimburse Regents for patent costs and attorney fees for prosecuting and maintaining the Patent Applications (as defined in the IMA), including [***] relating to [***], as set forth in the Caribou License (collectively, "Patent Costs");

WHEREAS, as of the date of this Agreement, [***] is Regents' counsel for [***], and [***] is Regents' counsel for all other Patent Applications (collectively, "Regents' Counsel");

WHEREAS, the Parties desire to come to a resolution regarding reimbursement of past and future Patent Costs of Regents' Counsel; and

NOW, THEREFORE, in consideration of the mutual agreements contained in this Agreement, and for good and valuable consideration, the sufficiency of which is hereby acknowledged, the Parties hereto agree as follows:

1. Within [***] of the Effective Date of this Agreement, CRISPR will reimburse Caribou $[***], as an adjusted settlement of [***] of the Patent Costs invoiced by UC and paid by Caribou during the period [***] through [***]. Caribou will provide wire instructions to CRISPR within [***] of the Effective Date.

2. For all invoices that Caribou received or will receive from UC for Patent Costs that were not paid by Caribou on or before [***], and which are: (i) invoiced by UC to Caribou before [***], for which payment was not due until after [***]; (ii) invoiced by UC to Caribou after [***], but prior to the effective date of the IMA (whether or not payment was or is due before the effective date of the IMA), or (iii) invoiced by UC to Caribou after the effective date of the IMA, Caribou will invoice CRISPR for [***] of the invoiced amount within [***] after Caribou's payment to Regents, together with a copy of the invoice(s) received from Regents and proof of payment to Regents. Within [***] after receipt of each such Caribou invoice, CRISPR will wire the amount set forth on the invoice to Caribou.

3. As long as CRISPR has and is making the timely payments as set forth in Sections 1 and 2, Caribou will indemnify and defend CRISPR in any collection actions taken by Regents against CRISPR for Patent Costs.

4. In the event that Caribou is required to take legal action to collect amounts due to it by CRISPR under this Agreement, CRISPR will pay all costs, including attorneys' fees, incurred in such collection.

5. Reimbursed Patent Costs shall not include fees or costs of attorneys retained by and/or representing CRISPR, Caribou, or any third party (including but not limited to Emmanuelle Charpentier and ERS Genomics Ltd.). As of the Effective Date of this Agreement, Patent Costs include those of [***], [***], and all foreign associates prosecuting the Patent Applications under the instruction of, and invoiced by, [***] (collectively and individually, the "Foreign Associates"), in accordance with Section C of the IMA. CRISPR acknowledges that Regents may, at its sole discretion, replace [***], [***], or any of the Foreign Associates as Regents' Counsel, and that, in such event, CRISPR's obligations with respect to the Patent Costs associated with replacement Regents' Counsel (including Foreign Associates) shall be subject to this Agreement.

6. This Agreement shall be governed in accordance with the Governing Laws and Dispute Resolution procedures as provided in Section D of the IMA.

7. This Agreement may be executed in any number of counterparts, including facsimile or scanned PDF documents. Each such counterpart, facsimile, or scanned PDF document shall be deemed an original instrument and all of which together shall constitute one and the same Agreement.

IN WITNESS WHEREOF, the Parties have caused this Cost-Sharing Agreement to be executed by their respective authorized representations as of the Effective Date.

CRISPR Therapeutics AG

By: /s/ Rodger Novak
Rodger Novak
Chief Executive Officer

Date: December 13, 2016

Copies of Invoices to be delivered to: *Legal@crisprtx.com*
Finance@crisprtx.com

Address for Notice:
CRISPR Therapeutics Limited
85 Tottenham Court Road
London W1T 4TQ
United Kingdom

With a copy (which shall not constitute notice) to:
Legal@crisprtx.com

Caribou Biosciences, Inc.

By: /s/ Rachel E. Haurwitz
Rachel E. Haurwitz, Ph.D.
President & Chief Executive Officer

Date: December 2, 2016

Copies of remittance statements to be delivered to:
accounts.receivable@cariboubio.com

Address for Notice:
Caribou Biosciences, Inc.
2929 7th Street, Suite 105
Berkeley, CA 94710
United States

With a copy (which shall not constitute notice) to:
legalnotices@cariboubio.com

Exhibit H to
Invention Management Agreement

Dispute Resolution

Disputes of any nature between the Parties arising under this Agreement (a "Dispute") will be resolved exclusively through mediation and binding arbitration as set forth in this Exhibit H ("Mediation/Arbitration"), including without limitation the determination of the scope or applicability of this Agreement to arbitrate. The Parties agree and acknowledge that any good faith dispute in Mediation/Arbitration will not be deemed to be a material breach of this Agreement. For the purposes of provisions (b) through (j), the term "Parties" shall mean the Parties involved in the Dispute.

(a) The Mediation/Arbitration will be conducted in [***] and shall be administered by JAMS (formerly Judicial Arbitration and Mediation Services, Inc.) strictly in accordance with the below-described process.

(b) The Parties will appoint a single mediator and a single arbitrator to be selected by mutual agreement or, if the Parties are unable to agree on an arbitrator within [***] after such matter is referred to Mediation/Arbitration (all days being calendar days unless otherwise specifically provided herein), the Parties will request that JAMS select the arbitrator, in each case satisfying the criteria set forth below to the maximum extent possible.

(c) In all cases:

1. involving a disagreement over patent matters (including without limitation the conduct of the Patent Activities), the arbitrator should be a patent attorney registered to practice by the U.S. Patent & Trademark Office with [***];

2. not involving patent matters patent matters, the arbitrator should be an attorney with [***].

Under no circumstances shall the arbitrator be a current or former employee or consultant of any of the Parties, an affiliated company that controls or is controlled by or is under common control with any of the Parties, an exclusive licensee of any of the Parties, or a non-exclusive licensee of any of the Parties that is involved in the dispute or has a direct interest in its outcome. In all cases, the arbitrator shall be fluent in the English language.

(d) Within [***] after such matter is referred to Mediation/Arbitration, each Party will provide the arbitrator with its one proposed resolution and a written memorandum in support of its position regarding the Dispute and its proposed resolution (each an "Opening Brief), which shall not exceed thirty (30) pages in total. In connection with the submission of an Opening Brief, a Party may also submit documentary evidence in support thereof which had both (x) existed prior to commencement of such Mediation/Arbitration and (y) been shared with the other Parties at least [***] prior to the date for submission of the Opening Brief. The arbitrator will provide each Party's Opening Brief, along with copies of any supporting documentation, to the other Parties after he or she has received an Opening Briefs from all

Parties. The arbitrator shall not consider any untimely Opening Brief(s) received after the arbitrator has provided copies of the Opening Briefs received to the other Party(ies).

(e) Within [***] after a Party receives another Party's Opening Brief from the arbitrator, such receiving Party will have the right to submit to the arbitrator a response to the other Party's Opening Brief (each, a "Response Brief), which shall not exceed twenty (20) pages in total. In connection with the submission of a Response Brief, a Party may also submit documentary evidence in support thereof which had both (x) existed prior to commencement of such Mediation/Arbitration and (y) been shared with the other Parties at least [***] prior to the date for submission of the Response Brief. The arbitrator will provide each Party's Response Brief, along with copies of any supporting documentation, if any, to the other Parties after he or she has received a Response Brief from all Parties (or at the expiration of such [***] period if any Party fails to submit a Response Brief).

(f) Within [***] of the timely receipt by the arbitrator of each Party's Response Brief (or expiration of such [***] period if any Party fails to submit a Response Brief), the mediator will conduct a single [***] meeting during which each Party will have present, in addition to its counsel, a person with authority to reach a binding agreement resolving the dispute.

(g) If the dispute is not resolved by mediation within [***] following the meeting referred to in (f) above, the arbitrator will conduct a single [***] hearing during which each Party will have [***] to present its position. At the hearing, each Party will have the right to call up to [***] witnesses, [***] of whom may be an employee, consultant or other advisor to another Party. Each Party will notify the other Parties and the arbitrator of the identity of the witnesses it intends to call at least [***] in advance of the hearing. Notwithstanding the foregoing, the time periods and other aspects of this provision may be modified if (x) the Parties agree to such modification, (y) the arbitrator determines that such modification is reasonably necessary in view of the factual circumstances of the matter to be decided, or (z) if more than two Parties are participating in the Dispute and the arbitrator determines that more than two of the Parties (or sets of Parties) are in good faith seeking different resolutions.

(h) The Parties shall submit Opening Briefs and Response Briefs, as well as any documentary evidence, to the arbitrator in electronic form by midnight Eastern Standard/Daylight Time of the applicable deadline and, if the arbitrator so requests, will also submit a hard copy to the arbitrator.

(i) There shall be no discovery in the Mediation/Arbitration (e.g., document requests, interrogatories, depositions, etc.), except as follows:

1. Opposing Parties may take a deposition of any declarant of the other Party and obtain copies of all documents on which each declarant relies upon in his or her declaration; provided that the Party(ies) taking such deposition must complete questioning of the declarant within [***];

2. As may be ordered by the arbitrator following request(s) of a Party; provided, however, that the arbitrator's decision to grant any discovery shall be subject to the

following conditions: (a) the arbitrator must conclude that the requested discovery will result in information that is necessary and essential under applicable laws to reach a fair and equitable decision; no interrogatories or requests to admit shall be allowed under any circumstances; no more than [***] depositions of non-declarants or non-witnesses shall be permitted and the Party seeking

3. the deposition must complete questioning within [***] for each deponent; and no more than [***] document requests shall be allowed, and each request must identify the document(s) sought with particularity (e.g., a Party may request a particular email sent from one individual to another on a certain date, but cannot request all emails sent by a particular individual).

All discovery must be completed prior to [***] in advance of the hearing. If a Party refuses or cannot provide the requested discovery in a timely manner (the "Refusing Party"), such Refusing Party shall lose its right to take discovery (or, if such Refusing Party already took discovery, shall lose its right to present the discovery obtained to the arbitrator) and the arbitrator shall not consider discovery evidence presented by the Refusing Party during the hearing to reach a decision.

The arbitrator will also have the right to perform independent research and analysis and to request any Party to provide additional documentary evidence that existed and was controlled by such Party prior to the arbitrator making such request.

(j) Within [***] of such hearing, or within such other time to which the Parties and the arbitrator agree or the arbitrator determines is reasonably necessary in view of the factual circumstances of the matter to be decided, the arbitrator will deliver his/her decision regarding the Dispute in writing. The arbitrator may but shall not be required to select the resolution or position proposed by one of the Parties. As part of any such decision, the arbitrator may also mandate that the Party or Parties whose proposed resolution is further from the resolution determined by the arbitrator to pay some or all of the other Party's or Parties' reasonable attorneys' fees and expenses in connection with the Mediation/Arbitration, as well as the costs and expenses of such Mediation/Arbitration ("Costs").

(k) Each of the Parties irrevocably and unconditionally submits to the exclusive jurisdiction of the [***] (and, if such federal court rejects jurisdiction for any reason, then solely and exclusively in the state courts of the [***]) solely and specifically for the purposes of compelling arbitration or enforcing the decision in any Mediation/Arbitration, with the proportioning of Costs of any court proceeding to enforce the decision in any Mediation/Arbitration to be established by the arbitrator in connection with the decision of the arbitrator.

Nothing set forth herein shall be deemed to preclude either Party from seeking appropriate judicial injunctive relief from any court of competent jurisdiction in order to prevent immediate and irreparable injury, loss, or damage on a provisional basis, pending a decision on the ultimate merits of any dispute.

Exhibit I to
Invention Management Agreement

Confidential Common Legal Interest and Nondisclosure Agreement (copy)

Exhibit J to
Invention Management Agreement

First Amendment to the Confidential Common Legal Interest and Nondisclosure Agreement

This First Amendment to the Confidential Common Legal Interest and Nondisclosure Agreement ("First Amendment"), is entered into as of December __, 2016 (the "First Amendment Effective Date"), [***].

RECITALS

WHEREAS, The Original Parties are parties to that certain Confidential Common Legal Interest and Nondisclosure Agreement (the "CLIA"), dated as of [***]; and

WHEREAS, pursuant to Section D-4.1 of the Consent to Assignments, Licensing and Common Ownership and Invention Management Agreement for a Programmable DNA Restriction Enzyme for Genome Engineering, by and among The Regents, Caribou, TRACR, CRISPR, ERS, Vienna, Charpentier, and Intellia, ("IMA"), [***] and having the same date as this First Amendment, [***] has the right to become part of the CLIA under the terms and conditions set forth in the IMA, the CLIA, and this First Amendment;

NOW, THEREFORE, in consideration of the covenants and agreements contained in this First Amendment, the Parties hereby agree as follows:

1. [***].

2. The Original Parties hereby accept [***] as a Party to the CLIA.

3. Each Original Party acknowledges that the CLIA is in full force and effect and that each such Original Party has no claims, causes of action, defenses, or rights of offset with respect to its obligations under the CLIA.

4. Except as explicitly set forth in this First Amendment, all terms and conditions of the CLIA shall remain in full force and effect, and the CLIA, as modified by this First Amendment, is ratified and confirmed in all respects.

5. This First Amendment may be executed in counterparts (whether delivered by facsimile, electronically by image or PDF or otherwise) with the same effect as if each Party had executed the same physical document. All such counterparts shall be deemed an original, shall be construed together and shall constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties, through their authorized representatives, have executed this First Amendment to the Confidential Common Legal Interest and Nondisclosure Agreement as of the First Amendment Effective Date.

[***] INDICATES MATERIAL THAT HAS BEEN OMITTED AND FOR WHICH CONFIDENTIAL TREATMENT HAS BEEN REQUESTED. ALL SUCH OMITTED MATERIAL HAS BEEN FILED WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 PROMULGATED UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

[Signatures set forth on the following page]

[***] [***]

[***] [***]

[***]

[***] [***]

CERTAIN CONFIDENTIAL INFORMATION MARKED BY [***] HAS BEEN EXCLUDED FROM THIS EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL

EXHIBIT 10.28

AGREEMENT AND PLAN OF MERGER

BY AND AMONG

INTELLIA THERAPEUTICS, INC.,

REWRITE THERAPEUTICS, INC.,

RW ACQUISITION CORP.,

AND

SHAREHOLDER REPRESENTATIVE SERVICES, LLC,

AS SECURITYHOLDER REPRESENTATIVE

Dated as of February 2, 2022

TABLE OF CONTENTS

INDEX OF EXHIBITS AND ANNEXES AND SCHEDULES

Exhibit	Description
Exhibit A	Joinder Agreement
Annex A-1	Company Securityholders
Annex A-2	Key Consultant
Annex A-3	Additional Consultant #1
Annex A-4	Additional Consultant #2
Annex A-5	Restrictive Covenant Agreements
Annex A-6	Persons with Completed Certification Forms
Exhibit B	Stockholder Consent
Exhibit C	Certificate of Merger
Exhibit D	Stockholder Letter of Transmittal
Exhibit E-1	Employee Optionholders
Exhibit E-2	Executed Optionholder Letter of Transmittal
Exhibit F	Director and Officer Resignation Letter
Exhibit G	Escrow Agreement
Exhibit H	Certification Form
Exhibit I-1	Primary TSA
Exhibit I-2	Additional TSA#1
Exhibit I-2	Additional TSA #2
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]
[***]	

THIS AGREEMENT AND PLAN OF MERGER (this "**Agreement**") is made and entered into as of February 2, 2022, by and among Intellia Therapeutics, Inc., a Delaware corporation ("**Parent**"), RW Acquisition Corp., a Delaware corporation and a wholly owned Subsidiary of Parent ("**Merger Sub**"), Rewrite Therapeutics, Inc., a Delaware corporation (the "**Company**"), and Shareholder Representative Services LLC, a Colorado limited liability company, solely in its capacity as the representative of the Company Securityholders (the "**Securityholder Representative**").

RECITALS

A. Parent, Merger Sub and the Company wish to effect a business combination through a merger (the "**Merger**") of Merger Sub with and into the Company on the terms and conditions set forth in this Agreement and in accordance with the Delaware General Corporation Law, as amended (the "**DGCL**").

B. The board of directors of the Company has unanimously approved this Agreement, the Merger and the other transactions contemplated hereby and determined that entering into this Agreement and the Merger are advisable and in the best interest of the Company and the Company Stockholders.

C. Parent and Merger Sub have obtained all required company approvals to enter into this Agreement and consummate the Merger and the other transactions contemplated hereby.

D. Pursuant to and in connection with the Merger, among other things, and subject to the terms and conditions of this Agreement, at the Effective Time:

(i) all of the issued and outstanding shares of Company Capital Stock: owned by any Company Stockholder shall be converted into a right to receive (a) cash as provided for in this Agreement, (b) a number of shares of Common Stock, par value $0.0001 per share, of Parent ("**Parent Common Stock**"), and cash, if any, for the achievement of certain milestones as provided for in this Agreement and (c) distributions, if any, of cash to be held in an escrow account from and after the Effective Time to secure indemnification obligations to the Parent Indemnified Parties; and

(ii) all of the issued and outstanding Company Options shall be cancelled and extinguished and shall be converted into a right to receive: (a) for any holder of Company Options who is an Accredited Investor (I) cash as provided for in this Agreement, (II) a number of shares of Parent Common Stock and cash, if any, for the achievement of certain milestones as provided for in this Agreement, and (III) distributions, if any, of cash to be held in an escrow account from and after the Effective Time to secure indemnification obligations to the Parent Indemnified Parties; and (b) for any holder of Company Options who is a Non-Accredited Investor (I) cash as provided for in this Agreement, (II) cash, if any, for the achievement of certain milestones as provided for in this Agreement, and (III) distributions, if any, of cash to be held in an escrow account from and after the Effective Time to secure indemnification obligations to the Parent Indemnified Parties.

E. Concurrently with the execution and delivery of this Agreement, and as a condition and inducement to Parent to enter into this Agreement: (i) each Company Securityholder listed on **Annex A-1** has entered into and delivered to Parent a written consent, joinder, release and waiver in the form attached hereto as Exhibit A (each, a "**Joinder Agreement**"); (ii) the Person listed on **Annex A-2** (the "**Key Consultant**") has entered into a transition services agreement in the form attached as **Exhibit I-1** (the "**Primary TSA**") with Parent to be contingent on and effective immediately after the Closing; (iii) the Person listed on **Annex A-3** (the "**Additional Consultant #1**") has entered into a transition services agreement in the form attached as **Exhibit I-2** (the "**Additional TSA #1**") with Parent to be contingent on and effective immediately after the Closing; (iv) the Person listed on **Annex A-4** (the "**Additional Consultant #2**") has entered into a transition services agreement in the form attached as **Exhibit I-3** (the "**Additional TSA #2**") with Parent to be contingent on and effective immediately after the Closing; (v) the Person listed on **Annex A-5** has entered into and delivered to Parent a restrictive covenants agreement in a form acceptable to Parent (each, a "**Covenants Agreement**"); and (vi) each of the Persons listed on **Annex**

A-6 has delivered to Parent its, his or her completed and executed Certification Form evidencing the fact that such Person is an Accredited Investor in the form attached as **Exhibit H** (each, a "**Certification Form**").

F. As an inducement to the willingness of Parent and Merger Sub to enter into this Agreement, the Company shall deliver to Parent the irrevocable approval of the adoption of this Agreement and the principal terms of the Merger pursuant to a written consent of stockholders in the form attached hereto as Exhibit B (the "**Stockholder Consent**"), executed by all Company Stockholders in respect of all of the outstanding shares of Common Stock (including as a result of the conversion of the Company SAFEs as contemplated by **Section** 2.6(c)) pursuant to and in accordance with the applicable provisions of the DGCL and the Charter Documents.

NOW, THEREFORE, in consideration of the mutual agreements, covenants and other premises set forth herein, the mutual benefits to be gained by the performance thereof, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged and accepted, the parties hereby agree as follows:

ARTICLE 1

DEFINITIONS

For all purposes of this Agreement, the following terms shall have the following respective meanings:

"**2020 Financials**" means the Company's unaudited balance sheet as of December 31, 2020 (the "**Balance Sheet Date**") and the related statements of income and cash flow for the twelve month period ending December 31, 2020.

"**2021 Financials**" means the Company's unaudited balance sheet as of October 31, 2021 and the related unaudited statements of income and cash flow for the ten month period ending October 31, 2021.

"**280G Stockholder Approval**" means the requisite approval of the Company Stockholders as is required by the terms of Section 280G(b)(5)(B) of the Code of a proposal to render the parachute payment provisions of Section 280G of the Code and the Treasury Regulations thereunder inapplicable to any and all payments and/or benefits provided that might result, separately or in the aggregate, in the payment of any amount and/or the provision of any benefit that would not be deductible by reason of Section 280G or that would be subject to an excise Tax under Section 4999 of the Code.

"**Accredited Investor**" means any holder of Company Capital Stock that is an "accredited investor" within the meaning of Rule 501 of the Securities Act.

"**Additional Per Share Escrow Consideration**" means with respect to each share of Company Capital Stock outstanding immediately prior to the Effective Time and each share of Company Capital Stock subject to a Company Option immediately prior to the Effective Time, the amount in cash to be released from the Escrow Fund pursuant to **Section 9.4(f)**.

"**Affiliate**" means, with respect to any Person, any other Person directly or indirectly controlling, controlled by, or under common control with such Person. For purposes of this Agreement, "control," when used with respect to any specified Person, means the power to direct or cause the direction of the management and policies of such Person, directly or indirectly, whether through ownership of voting securities or by Contract or otherwise, and the terms "controlling" and "controlled by" have correlative meanings to the foregoing. Without limiting the foregoing, Affiliates of the Company shall include Schaked Omar Halperin and his Affiliates but not Civilization Ventures II, LP or any of its Affiliates.

"**Aggregate Exercise Price**" means the aggregate exercise price of all Company Options.

"**[***]**.

"**[***]**.

"**[***]**"

"**Business Day(s)**" means each day that is not a Saturday, Sunday or other day on which Parent is closed for business or banking institutions located in Boston, Massachusetts are authorized or obligated by Law or executive order to close.

"**CARES Act**" means the Coronavirus Aid, Relief, and Economic Security Act (Pub. L. 116-136), together with all rules and regulations and guidance issued by any Governmental Entity with respect thereto and any similar or successor statute with respect thereto (including for the avoidance of doubt the Consolidated Appropriations Act of 2021, P.L. 116-260).

"**Cash**" means the sum of (a) all cash and (b) all cash equivalents (including deposits, amounts held in escrow, marketable securities and short term investments) of the Company determined in accordance with GAAP as of immediately prior to the Closing; provided that any restricted cash and cash collateralizing any letter-of-credit, bond or guarantee obligations shall be excluded from the definition of Cash hereunder. Notwithstanding the foregoing, for purposes of calculating the Net Debt Adjustment Amount and the Closing Net Debt Amount, any cash or cash equivalents excluded from the definition of Cash by reason of the proviso to the immediately preceding sentence shall be added back to, and included in, Cash (on a dollar-for-dollar basis) to the extent such restricted cash or cash equivalents relate to Indebtedness included such calculations.

"**Certificates**" means the certificates certifying (i) the Spreadsheet, (ii) the Closing Statement delivered pursuant to **Section 2.9(a)**, and (iii) any other certificates delivered by or on behalf of the Company and/or an officer of the Company pursuant to Article 7.

"**Closing Consideration**" means (i) $45,000,000 plus (ii) the Aggregate Exercise Price minus (iii) the Net Debt Adjustment Amount.

"**Code**" means the Internal Revenue Code of 1986, as amended.

"**Common Stock**" means the Common Stock, par value $0.0001, of the Company.

"**Company Capital Stock**" means collectively shares of Common Stock, including for purposes of determining outstanding shares as of immediately prior to the Effective Time, any shares of Common Stock issued upon the conversion of the Company SAFEs prior to, and contingent upon the occurrence of, the Effective Time as contemplated by **Section 2.6(c)**.

"**Company Employee Plan**" means (a) an employee benefit plan within the meaning of Section 3(3) of ERISA whether or not subject to ERISA; (b) stock option plans, stock purchase plans, bonus or incentive award plans, equity-based plans, retention plans, profit sharing plans, severance pay plans, programs or arrangements, deferred compensation arrangements or agreements, employment agreements, offer letters, compensation plans, programs, agreements or arrangements, change in control plans, programs or arrangements, supplemental income arrangements, vacation plans, and all other employee benefit plans, agreements, and arrangements, not described in (a) above; and (c) plans or arrangements providing compensation to employee and non-employee directors, in each case which the Company sponsors, contributes to, or provides benefits under or through, or has any obligation to contribute to or provide benefits under or through, or if such plan provides benefits to or otherwise covers any current or former employee, officer or director of the Company (or their spouses, dependents, or beneficiaries), or under which the Company has or may have any Liability (contingent or otherwise, including be reason of being an ERISA Affiliate).

"**Company Material Adverse Effect**" means [***].

"**Company Options**" means all issued and outstanding options, rights and warrants (including commitments to grant options) to purchase or otherwise acquire Company Capital Stock issued or granted by or on behalf of the Company (whether or not vested) held by any Person.

"**Company Products**" means all products, product candidates, technology and services currently or previously developed (including products, product candidates, technology and services for which development is ongoing), manufactured, made commercially available, marketed, distributed, supported, sold, imported for resale or licensed out by or on behalf of the Company or any of its Subsidiaries, in each of the foregoing cases that have been offered or made available to any third party prior to the date hereof, including as listed on **Section 3.13(b)** of the Company Disclosure Schedules.

"**Company SAFE Holder**" means any holder of a Company SAFE.

"**Company SAFEs**" means the outstanding Simple Agreements for Future Equity of the Company convertible into Company Capital Stock.

"**Company Securityholder**" means any holder of Company Options, any Company Stockholder and any Company SAFE Holder (as contemplated by **Section 2.6(c)**), as of immediately prior to the Effective Time or, with respect to any time before immediately prior to the Effective Time, any Person that would be a Company Securityholder if the Effective Time were to occur at such time.

"**Company Stockholder**" means any holder of Company Capital Stock (including as a result of the conversion of the Company SAFEs as contemplated by **Section 2.6(c)**) as of immediately prior the Effective Time or, with respect to any time before immediately prior to the Effective Time, any Person that would hold Company Capital Stock if the Effective Time were to occur at such time.

"**Contract**" means any legally binding mortgage, indenture, lease, contract, license, covenant, plan, insurance policy, purchase order (including any related terms and conditions), work order or other agreement, instrument, arrangement, obligation, understanding or commitment, permit, concession or franchise, whether oral or written and including any amendment, waiver or modification made thereto.

"**COVID-19**" means SARS-CoV-2 or COVID-19, and any evolutions thereof or related or associated epidemics, pandemics or disease outbreaks.

"**DGCL**" means the Delaware General Corporation Law, as amended.

"**Dollars**" or "**$**" means United States Dollars.

"**Effective Time**" means the time of the filing of the Certificate of Merger, or, if different, the time of effectiveness of the Merger that is specified therein.

"**Environment**" means any soil, surface waters (including navigable waters, ocean waters, streams, ponds, drainage basins and wetlands), groundwaters, drinking water supplies, land, sediments, surface or subsurface strata, flora, fauna, ambient air (including indoor air), and any other environmental medium or natural resource.

"**Environmental Law**" means any federal, state or local law, common law, regulation, ordinance, bylaw or other applicable and binding legal authority, relating to: (a) the manufacture, transport, use, treatment, storage, disposal, recycling, export, release or threatened release of Hazardous Materials; (b) protection of human health; or (c) pollution or protection of the Environment.

"**ERISA**" means the Employee Retirement Income Security Act of 1974, as amended.

"**ERISA Affiliate**" means any entity, trade or business that is, or at any applicable time was, a member of a group described in Section 414(b), (c), (m) or (o) of the Code or Section 4001(b) of ERISA that includes the Company.

"**Escrow Agent**" means Wilmington Trust, N.A. or another institution reasonably acceptable to Parent and the Company.

"**Escrow Agreement**" means the Escrow Agreement to be entered into at the Closing by and among Parent, the Securityholder Representative and the Escrow Agent in the form attached hereto as Exhibit G.

"**Escrow Amount**" means an amount in cash equal to $[***].

"**Escrow Fund**" means the Escrow Amount, as the same may be reduced from time to time by any payments to Parent and other Parent Indemnified Parties pursuant to **Sections** 9.4(f)**.** or **Section 9.5(b)**.

"**Escrow Release Time**" means the first Business Day after the expiration of the Survival Date.

"**Exchange Documents**" means the Stockholder Letter of Transmittal and Certification Form.

"**Expense Fund**" means $[***].

"**FDA**" means United States Food and Drug Administration and any successor agency thereto.

"**Financials**" mean the 2020 Financials and 2021 Financials.

"**Fraud**" means [***].

"**Fully Diluted Share Count**" means the sum of the following (without double-counting): (a) the aggregate number of shares of Company Capital Stock that are issued and outstanding as of immediately prior to the Effective Time (including the outstanding shares of Company Capital Stock issued upon the conversion of Company SAFEs prior to, and contingent upon the occurrence of, the Effective Time as contemplated by **Section 2.6(c)**); and (b) the number of shares of Company Capital Stock issuable upon exercise of all Company Options (vested and unvested) issued and outstanding as of immediately prior to the Effective Time (assuming payment in full of the exercise price of such Company Options in cash).

"**GAAP**" means United States generally accepted accounting principles consistently applied.

"**Governmental Entity**" means any federal, national, foreign, supranational, state, provincial, local or other government, governmental, regulatory or administrative authority, agency or commission or any court, tribunal, or judicial or arbitral body of competent jurisdiction.

"**Hazardous Material**" means: (a) any petroleum, petroleum products, petroleum by-products or breakdown products, radioactive materials, asbestos-containing materials or polychlorinated biphenyls; (b) any waste, chemical, material or substance defined, controlled or regulated as toxic or hazardous or as a pollutant or contaminant under any Environmental Law.

"**Health Care Law**" means all applicable Laws relating to Company Products, including such applicable Laws pertaining to: (a) the research, development, testing, production, manufacturing, marketing, transfer, distribution and sale of drugs or biologics, including the Federal Food, Drug, and Cosmetic Act (21 U.S.C. §§ 301 et seq.) and the regulations and rules promulgated thereunder and the Public Health Service Act and the regulations and rules promulgated thereunder; (b) Permits required to be held by individuals and entities involved in the research, development, testing, production, manufacturing, marketing, transfer, distribution and sale of Company Products; (c) any federal health care program (as such term is defined in 42 U.S.C. section 1320a-7b(f)), including those pertaining to providers of goods or services that are paid for by any federal health care program, including the federal Anti-Kickback Statute (42 U.S.C. § 1320a-7b(b)), the civil False Claims Act (31 U.S.C. § 3729 et seq.), the administrative False Claims Law (42 U.S.C. § 1320a-7b(a)), the Physician Payments Sunshine Act (42 U.S.C. § 1320a-7h), Medicare exclusion and civil money penalties, Sections 1320a-7 and 1320a-7a of Title 42 of the United States Code, Medicare (Title XVIII of the Social Security Act), Medicaid (Title XIX of the Social Security Act), all related rules and regulations of the foregoing and all equivalent applicable Law of other Governmental Entities (d) the privacy and security of patient-identifying health care information, including the Health Insurance Portability and Accountability Act of 1996 (42 U.S.C. 1320d et seq.) and any

corresponding state and local Laws applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, storage, import, export or disposal of any Company Products.

"**HSR Act**" means the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, and the rules and regulations promulgated thereunder, as the same may be amended from time to time.

"**Indebtedness**" of any Person means, as of any specified date, the amount equal to the sum (without any double-counting) of the following obligations (whether or not then due and payable), to the extent they are either obligations of such Person or its Subsidiary or guaranteed by such Person or its Subsidiary, including through the grant of a security interest upon any assets of such Person: (a) all outstanding indebtedness for borrowed money owed to third parties or Affiliates; (b) all obligations for the deferred purchase price of property or services (including any potential future earn-out, purchase price adjustment, releases of "holdbacks" or similar payments but excluding any royalty payment obligations, license payment obligations or similar obligations based on future sales, revenue, profit or other performance-based or time-based metrics, including any such payments under the Exclusive License Agreement, dated May 19, 2021, by and between the Company and the Regents of the University of California) ("**Deferred Purchase Price**"); (c) all obligations evidenced by notes, bonds, debentures or other similar instruments (whether or not convertible) or arising under indentures (including the amount that Company owes to Parent under the promissory note between Company and Parent, dated as of January 11, 2022); (d) all obligations under any financial hedging, swap or similar arrangements (valued at the termination value thereof); (e) all obligations as lessee that would be required to be capitalized in accordance with GAAP (other than real property leases); (f) all obligations for the reimbursement of any obligor on any letter of credit, banker's acceptance, guarantee, surety, performance or appeal bond, or similar credit transaction; (g) any unpaid wages, commissions or bonuses, unpaid severance Liabilities paid or payable under any legally binding arrangement, plan or agreement of the Company in respect of employees and service providers of the Company whose employment or service to the Company ceases on or prior to the Closing, deferred compensation Liabilities of the Companies, employee expenses and paid time off required to be accrued by GAAP or paid under applicable Law or earned prior to or at the Closing; (i) any accrued but unpaid Taxes of the Company for any Pre-Closing Tax Period; (j) any Taxes with respect to any Pre-Closing Tax Period deferred to a period that is not a Pre-Closing Tax Period under Section 2302 of the CARES Act or IRS Notice 2020-65, or any similar state or local Law; (k) any mortgage or other obligation secured by a Lien; and (l) the aggregate amount of all accrued interest payable on such items under clauses (a) through (l) in accordance with the applicable definitive documents with respect thereto and prepayment premiums, penalties, breakage costs, "make whole amounts," costs, expenses and other payment obligations of such Person that would arise whether or not then due and payable if all such items under clauses (a) through (l) were prepaid, extinguished, unwound and settled in full in accordance with their respective terms; provided, that "Indebtedness" shall not include (1) any employment Liabilities arising in connection with any termination of any employee or other service provider by the Company immediately prior to Closing pursuant to **Section 6.11** except as expressly set forth in subsection (g) above ("**Excluded Employment Liabilities**") or (2) **[***]**. For purposes of determining the Deferred Purchase Price obligations as of a specified date, such obligations shall be deemed to be the maximum amount of Deferred Purchase Price owing as of such specified date (whether or not then due and payable) or potentially owing at a future date.

"**Indemnifying Holders**" means the holders of Company Capital Stock and Company Options that receive any portion of the Merger Consideration.

"**Inventory**" means all raw materials, works-in-progress, finished goods, supplies and other inventories of the Company, wherever situated.

"**[***]**".

"**[***]**".

"**[***]**".

"**[***]**".

"**[***]**".

"**IRS**" means the United States Internal Revenue Service.

"**Knowledge**" or "**Known**" means, whether or not capitalized, with respect to the Company, the knowledge of **[***]**, after a reasonable inquiry.

"**Laws**" means constitutions, laws (including common law), statutes, regulations, ordinances, codes, orders, decrees, judgments, rules, standards, and rulings of any Governmental Entity.

"**Letter of Intent**" means that certain letter, dated as of November 1, 2021 by and between Parent and the Company.

"**Liability**" or "**Liabilities**" means debts, liabilities, commitments, losses, deficiencies, duties, charges, claims, damages, demands, costs, fees, Taxes, expenses and obligations (including guarantees, endorsements and other forms of credit support), whether accrued or fixed, absolute or contingent, matured or unmatured, Known or not Known, on- or off-balance sheet, including those arising under any Contract, Law, statute, ordinance, regulation, rule, code, common law or other requirement or rule enacted or promulgated by any Governmental Entity or under any litigation, court action or proceeding, lawsuit, originating application to an employment tribunal, or binding arbitration.

"**Lien**" means any lien, pledge, charge, claim, mortgage, security interest, defect in title, preemptive right, vesting limitation, right of first offer, notice, negotiation or refusal, last matching right, community or marital property interest, transfer restriction of any kind or other encumbrance of any sort.

"**Loss**" means any [***].

"**made available to Parent**" means contained and accessible for a continuous period of at least twenty-four (24) hours immediately prior to the date of this Agreement in the virtual data room hosted by DocSend established by the Company in connection with the Merger (the "**Data Room**") to which Parent and its designated representatives had unrestricted access and notification rights during such period.

"**Merger Consideration**" means the aggregate consideration paid or payable to the holders of Company Capital Stock and Company Options pursuant to **Section 2.6** (including any portion of the Escrow Fund).

"**Milestone Consideration**" means [***].

"**Multiemployer Plan**" shall have the meaning set forth in Section 3(37) of ERISA.

"**Nasdaq**" means the Nasdaq Global Market.

"**Net Debt Adjustment Amount**" has the meaning set forth in **Section 2.9**.

"**Non-Accredited Investor**" means any holder of Company Capital Stock and/or Company Options that is not an Accredited Investor.

"**Order**" means any applicable order, writ, injunction or decree of any Governmental Entity, arbitrator or mediator and any settlement agreement or compliance agreement entered into in connection with any Proceeding.

"**Parent Certificates**" means the certificate of Parent delivered pursuant to **Section 2.9(d)(i)** and any other certificates delivered by or on behalf of Parent and Merger Sub (or any of them) and/or any officer of any such Persons pursuant to Article 7.

"**Parent Common Stock**" means Common Stock, par value $0.0001 per share, of Parent.

"**Parent Common Stock Price**" means, with respect to a share of Parent Common Stock issuable upon payment of the [***] Milestone Consideration, an amount equal to the volume-weighted average trading price of a share of Parent Common Stock during the 10 consecutive trading day period ending on and including the trading day that is two (2) trading days immediately prior to the Parent's issuance of the [***] Milestone Consideration.

"**Parent Indemnified Parties**" means the Parent, the Surviving Corporation, their respective Affiliates and the respective officers, directors, employees, agents and representatives of Parent, the Surviving Corporation and their respective Affiliates.

"**Parent's Knowledge**" shall mean the knowledge of the executive officers (as defined in Rule 405 under the Securities Act) of the Parent, after reasonable inquiry.

"**Parent Material Adverse Effect**" means [***].

"**Per Company Option Closing Consideration**" means, in respect of each share of Company Capital Stock subject to a Company Option, an amount in cash equal to (i) the Per Share Closing Consideration minus (ii) the exercise price per share of such Company Option.

"**Per Share [***] Milestone Consideration**" means an amount in cash equal to (i) the [***] Milestone Consideration divided by (ii) the Fully Diluted Share Count.

"**Per Share Closing Consideration**" means an amount in cash equal to the (i) Closing Consideration divided by (ii) Fully Diluted Share Count.

"**Per Share Escrow Amount**" means an amount in cash equal to (i) the Escrow Amount divided by (ii) the Fully Diluted Share Count.

"**Per Share [***] Milestone Consideration**" means a number of shares of Parent Common Stock equal to (i) (A) the [***] Milestone Consideration, divided by (B) the Parent Common Stock Price divided by (ii) Fully Diluted Share Count.

"**Per Share [***] Milestone Consideration Value**" means an amount in cash equal to (i) the [***] Milestone Consideration divided by (ii)the Fully Diluted Share Count.

"**Per Share [***] Milestone Consideration**" means an amount in cash equal to (i) the [***] Milestone Consideration divided by (ii) the Fully Diluted Share Count.

"**Per Share Overpayment Amount**" means an amount in cash equal to the (i) Overpayment Amount divided by (ii) Fully Diluted Share Count.

"**Per Share Underpayment Amount**" means an amount in cash equal to the (i) Underpayment Amount divided by (ii) Fully Diluted Share Count.

"**Permit**" means all consents, licenses, permits, grants, agreements and authorizations required by any Governmental Entity to lawfully operate the business of the Company (including any pending applications for such all consents, licenses, permits, grants, agreements and authorizations).

"**Person**" means an individual or entity, including a partnership, a limited liability company, a corporation, an association, a joint stock company, a trust, a cooperative, a foundation, a joint venture, an unincorporated organization, or a Governmental Entity (or any department, agency, or political subdivision thereof).

"**Pre-Closing Tax Period**" means any taxable period (or a portion thereof) ending on or prior to the end of the day on the Closing Date.

"**Pre-Closing Taxes**" means, without duplication (a) any and all Taxes of the Company attributable to any Pre-Closing Tax Period (b) all Taxes of any member of an Affiliated, consolidated, combined or unitary group of which the Company (or any predecessor of the Company) is or was a member on or prior

to the Closing Date, including pursuant to Treasury Regulation 1.1502-6 or any analogous or similar state, local, or non-U.S. Laws, (c) any and all Taxes of any Person (other than the Company) imposed on the Company as a transferee or successor, by Contract or pursuant to any Laws, which Taxes relates to an event or transaction occurring on or before the Closing Date, (d) the employer portion of any payroll or employment Taxes with respect to any payments contemplated by this Agreement to be paid on or before the Closing Date or to the extent accrued for U.S. federal income tax purposes on or before the Closing Date, (e) any Transfer Taxes payable by the Indemnifying Holders under **Section 8.5** and (f) any Taxes with respect to any Pre-Closing Tax Period deferred to a period that is not a Pre-Closing Tax Period under Section 2302 of the CARES Act or IRS Notice 2020-65, or any similar state or local Law.

"**Pro Rata Share**" means, with respect to each Company Securityholder, a percentage (rounded to four (4) decimal places) equal to: (a) the sum of the following (without double-counting): (i) the aggregate number of shares of Company Capital Stock that are issued and outstanding as of immediately prior to the Effective Time (including the outstanding shares of Company Capital Stock issued upon the conversion of Company SAFEs prior to, and contingent upon the occurrence of, the Effective Time as contemplated by **Section 2.6(c)**) and owned by such Company Securityholder and (ii) the number of shares of Company Capital Stock issuable upon exercise of all Company Options (vested and unvested) that are issued and outstanding as of immediately prior to the Effective Time and that are owned by such Company Securityholder (assuming payment in full of the exercise price of such Company Options in cash), divided by (b) the Fully Diluted Share Count. At all times, the sum of all Pro Rata Shares of Company Securityholders shall equal 100%.

"**Proceeding**" means any audit, litigation (in Law or in equity), arbitration, review, re-examination, opposition, mediation, action, lawsuit, proceeding, complaint, charge, claim (including any counterclaim), demand, hearing, examination, inquiry, petition, subpoena, discovery, request, investigation or like matter before or by any arbitrator or Governmental Entity, whether administrative, judicial or arbitrative in nature, at Law or in equity.

"**Related Agreements**" means the Escrow Agreement, the Certification Forms, the Joinder Agreements, the Covenants Agreements, the Letters of Transmittal, and all other agreements and certificates executed and delivered by or on behalf of the Company or any Subsidiary of the Company, or any of the Company Securityholders in connection with this Agreement.

"**Restricted Shares**" means all shares of Parent Common Stock issuable hereunder other than shares of Parent Common Stock (a) the offer and sale of which have been registered under a registration statement pursuant to the Securities Act and sold thereunder, (b) with respect to which a sale or other disposition may be made in reliance on and in accordance with Rule 144 (or any successor provision) under the Securities Act (including under Rule 144(d)(1)(i)) or (c) with respect to which the holder thereof shall have delivered to Parent either (i) an opinion of counsel in form and substance reasonably satisfactory to Parent, delivered by counsel reasonably satisfactory to Parent, or (ii) a "no action" letter from the SEC, in either case to the effect that subsequent transfers of such shares of Parent Common Stock may be effected without registration under the Securities Act.

"**SEC**" means the Securities and Exchange Commission.

"**Section 280G**" means Section 280G of the Code and the Treasury Regulations thereunder.

"**Section 280G Payments**" means any and all payments and/or benefits provided that might result, separately or in the aggregate, in the payment of any amount and/or the provision of any benefit that would not be deductible by reason of Section 280G or that would be subject to an excise Tax under Section 4999 of the Code.

"**Securities Act**" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder, as the same may be amended from time to time.

"**Special Representations**" means, [***].

[***]

"**Spreadsheet**" means:

(a) With respect to each holder of Company Capital Stock: (i) (A) such Person's name, (B) the number, class and series of Company Capital Stock held by such Person, (C) the portion of the Per Share Closing Consideration to be paid to such Person in respect of such holder's shares at the Closing, (D) the maximum Per Share Closing Consideration that may become payable hereunder to such Person in respect of such shares, (E) such Person's Pro Rata Share expressed as a percentage (but excluding the Pro Rata Share of such Person represented by Company Options and disclosed in clause (b)(i)(I) below), (F) any amount required to be withheld from any payment to be made hereunder (including the employer withholding taxes) and the net cash amount to be paid to such Person as a result of any such withholding amount, (G) whether an election under Section 83(b) of the Code was timely made with respect to such Company Capital Stock, (H) whether any such shares are "covered securities" (as defined in §6045 of the Code), and if so, the acquisition price of such shares, and (I) the respective date(s) of acquisition of such shares of Company Capital Stock held by such Person (collectively, items in the foregoing clauses (A) through (I), the "**Fundamental Spreadsheet Stockholder Information**"), and (ii) such Person's domicile address (and if different, last known mailing address) and email address.

(b) With respect to each holder of an unexercised Company Option: (i) (A) such Person's name, (B) the number, class and series of shares of Company Capital Stock issuable upon the exercise of each unexercised Company Option held by such Person, (C) the respective exercise price per share of Company Capital Stock purchasable under such unexercised Company Options, (D) the respective grant date(s) of such unexercised Company Options, the term of such Company Options and whether such Company Option is fully vested, (E) whether such unexercised Company Options are incentive stock options or non-qualified stock options, (F) whether such Person was an employee of the Company at the time of grant of such Company Option, (G) the portion of the Per Company Option Closing Consideration to be paid to such Person in respect of such Company Option at the Closing, (H) the maximum Per Company Option Closing Consideration that may become payable hereunder to such Person in respect of such Company Option, (I) such Person's Pro Rata Share with respect to such Company Options, and (J) any amounts required to be withheld from any payments to be made hereunder (including the employer withholding taxes) and the net cash amount to be paid to such Person as a result of any such withholding amount (collectively, items in the foregoing clauses (A) through (J), the "**Fundamental Spreadsheet Optionholder Information**", together, the Fundamental Spreadsheet Stockholder Information, the "**Fundamental Spreadsheet Information**") and (ii) such Person's domicile address (and if different, last known mailing address) and email address.

"**Stockholder Letter of Transmittal**" means a stockholder letter of transmittal in substantially the form attached hereto as Exhibit D.

"**Straddle Period**" means a taxable period beginning on or before, and ending after, the Closing Date.

"**Subsidiary**" of any Person means any corporation, partnership, limited liability company, cooperative, association or other organization (including any branch), whether incorporated or unincorporated, which is directly or indirectly controlled by such Person, whether through ownership of securities or otherwise.

"**Tax**" or "**Taxes**" means any and all U.S. federal, state, local and non-U.S. taxes, assessments and other governmental charges, duties (including stamp duty), fees, impositions of any kind whatsoever

including taxes based upon or measured by gross receipts, income, profits, gains, sales, use and occupation, and value added, ad valorem, transfer, franchise, withholding, payroll, recapture, environmental, employment, unclaimed property, escheat, excise and property taxes as well as public imposts, and social security charges (including health, unemployment, workers' compensation and pension insurance), together with all interest, penalties, and additions imposed with respect to such amounts.

"**Tax Returns**" means any return, declaration, report, statement, information statement or other document filed or required to be filed with respect to Taxes, including any claims for refunds of Taxes, any information returns and any amendments or supplements of any of the foregoing.

"**Transaction Expenses**" means any (a) fees and expenses to the extent incurred by or on behalf of the Company (or any Affiliate thereof or any Company Securityholder, in each case, if required to be paid by the Company) prior to the Closing in connection with the negotiation and execution of the Letter of Intent, this Agreement, the Related Agreements (including all fees, costs and expenses of any brokers, accountants, financial advisors, attorneys, consultants, auditors and other experts); (b) all brokers', finders' or similar fees to the extent incurred by or on behalf of the Company (or any Affiliate thereof or any Company Securityholder, in each case, if required to be paid by the Company) prior to the Closing owed by any such Person in connection with the transactions contemplated hereby; (c) any change of control payments, bonuses, severance, final wages, accrued but unused vacation, termination or retention obligations or similar amounts payable by or due from the Company that are triggered solely by the transactions contemplated hereby (including the cessation of employment by certain employees of the Company prior to the Closing) and the amount of any payroll or employment Taxes related thereto; (d) the amount of the Expense Fund to the extent not (A) funded from cash of the Company prior to the Closing and (B) not reflected on the certificate delivered under Section 2.9(a); and (e) any payments owed to the Securityholder Representative by the Company, in each case, to the extent such fees and expenses have not been, and will not be, paid by the Company at or prior to the Closing or through the Expense Fund; provided, that "Transaction Expenses" shall not include (1) any Excluded Employment Liabilities or (2) [***].

"**Transferred Assets**" shall have the meaning set forth in the [***].

[***]

"**Willful Breach**" means [***].

Each of the following terms is defined in the Section set forth opposite such term:

Term	**Section**
Agreement	Preamble
Antitrust Laws	3.7
Balance Sheet Date	Article 1
Certificate of Merger	2.2
Certification Form	Recital E
Charter Documents	3.1(a)
Claim Date	9.4(b)
Closing	2.2
Closing Date	2.2
Closing Statement	2.9(d)(i)
Company	Preamble
Company Controlled Technology	3.13(a)
Company Disclosure Schedule	Article 3
Company Indemnified Parties	9.9(a)
Company Intellectual Property	3.13(a)

Company Registered Intellectual Property	3.13(a)
Conflict	3.6
Contingent Worker	3.22(a)
Covenants Agreement	Recital E
Current Balance Sheet	3.8(a)
Current Company Technology	3.13(a)
D&O Indemnified Parties	6.13(b)
Direct Claim	9.4(a)
Dissenting Shares	2.7(a)
EAR	3.27
Environmental Permits	3.19(a)
Estimated Closing Statement	2.9(a)
Exchange Documents	Article 1
Excluded Employment Liabilities	Article 1
FCPA	3.28
Fundamental Representations	[•]
Indemnifiable Matters	9.2(a)
Indemnified Party	9.1
Indemnifying Holder	Article 1
Indemnifying Holder Proceeds	9.3(b)
Intellectual Property	3.13(a)
Intellectual Property Rights	3.13(a)
Interested Party	3.15(a)
Issued Shares	2.6(e)
ITAR	3.27
Joinder Agreement	Recital E
Letters of Transmittal	2.8(b)(ii)
Material Contract	3.14(b)
Merger	Recital A
Merger Sub	Preamble
NDA	6.2(a)
Objection Deadline	9.4(c)(i)
Objection Notice	9.4(c)(i)
OFAC	3.27
Officer’s Certificate	9.4(b)
Official	3.28
Parent	Preamble
Parent Common Stock	Recital D(i)
Patents	3.13(a)
Payable Claim	9.4(e)
Registered Intellectual Property	3.13(a)
Resolved Claims	9.4(d)
Securityholder Representative	Preamble
Settled Claims	9.4(d)
Special Representations	Article 1
Spreadsheet	Article 1
Stock Plan	3.2(c)
Stockholder Consent	Recital F
Survival Date	9.1

Surviving Corporation	2.1
Tax Contest	8.2
Technology	3.13(a)
Third Party Claim	9.6
Trade Secrets	3.13(a)
Trademarks	3.13(a)
Transfer Taxes	8.5
Unobjected Claim	9.4(c)(ii)
Unresolved Claim	9.4(e)

ARTICLE 2

THE MERGER

2.1 The Merger; Effect of the Merger;. Subject to the terms and conditions of this Agreement and in accordance with the DGCL, at the Effective Time, the Company and Merger Sub shall consummate the Merger pursuant to which (a) Merger Sub shall be merged with and into the Company and the separate corporate existence of Merger Sub shall thereupon cease, (b) the Company shall be the surviving corporation in the Merger (the "Surviving Corporation"), become a wholly-owned Subsidiary of Parent and shall continue to be governed by the laws of the State of Delaware and (c) the separate corporate existence of the Company with all its rights, privileges, immunities, powers and franchises shall continue unaffected by the Merger. The Merger shall have the effects specified in the DGCL.

2.2 Effective Time; Closing. The closing of the Merger (the "**Closing**") will take place remotely by the electronic exchange of documents and signature pages on the date of this Agreement assuming the prior satisfaction or, if permissible by the express terms of this Agreement, waiver of the conditions set forth in Article 7 and, if such conditions have not then been so satisfied or waived then promptly following such later time as such conditions are so satisfied or waived, unless another time or place is mutually agreed upon in writing by Parent and the Company. The date upon which the Closing actually occurs shall be referred to herein as the "**Closing Date**." On the Closing Date, the parties hereto shall cause the Merger to be consummated by filing a certificate of merger substantially in the form attached hereto as Exhibit C (the "**Certificate of Merger**") with the Secretary of State of the State of Delaware, in accordance with the relevant provisions of the DGCL.

2.3 [Reserved].

2.4 Certificate of Incorporation and Bylaws of the Surviving Corporation.

(a) Unless otherwise determined by Parent prior to the Effective Time, as of the Effective Time, the certificate of incorporation of the Company as the Surviving Corporation shall be amended and restated to read the same as the certificate of incorporation of Merger Sub as in effect immediately prior to the Effective Time, until thereafter further amended in accordance with the DGCL and as provided in such amended and restated certificate of incorporation, except that ARTICLE I of the certificate of incorporation of the Surviving Corporation shall be amended and restated in its entirety to read as follows: "The name of this corporation is Rewrite Therapeutics, Inc. (the "Corporation")"

(b) Unless otherwise determined by Parent prior to the Effective Time, as of the Effective Time, the bylaws of the Company as the Surviving Corporation shall be amended and restated to read the same as the bylaws of Merger Sub as in effect immediately prior to the Effective Time, until thereafter further amended in accordance with the DGCL and as provided in the certificate of incorporation of the Surviving Corporation and such bylaws, except that all references to Merger Sub in the bylaws of the Surviving Corporation shall be changed to references to Rewrite Therapeutics, Inc.

2.5 Directors and Officers.

(a) Unless otherwise determined by Parent prior to the Effective Time, the directors of Merger Sub immediately prior to the Effective Time shall be the initial directors of the Surviving Corporation immediately after the Effective Time, each to hold office in accordance with the provisions of the DGCL and the certificate of incorporation and bylaws of the Surviving Corporation until their successors are duly elected and qualified.

(b) Unless otherwise determined by Parent prior to the Effective Time, the officers of Merger Sub immediately prior to the Effective Time shall be the initial officers of the Surviving Corporation immediately after the Effective Time, each to hold office in accordance with the bylaws of the Surviving Corporation until their successors are duly appointed and qualified.

2.6 Effect of Merger on the Securities of the Company.

(a) Effect on Company Capital Stock.

(i) At the Effective Time, by virtue of the Merger and without any action on the part of Parent, Merger Sub, the Company or the Company Stockholders, each share of Company Capital Stock that is issued and outstanding immediately prior to the Effective Time (excluding any shares of Company Capital Stock to be canceled pursuant to **Section (b)(ii)** and any Dissenting Shares) shall be canceled and extinguished and shall be converted into the right to receive (1) (x) the Per Share Closing Consideration, minus (y) the Per Share Escrow Amount plus (2) any Additional Per Share Escrow Consideration plus (3) any Per Share [***] Milestone Consideration, plus (4) any Per Share [***] Milestone Consideration, plus (5) any Per Share [***] Milestone Consideration, plus (6) the Per Share Underpayment Amount minus (7) the Per Share Overpayment Amount; *provided*, that the Parent Common Stock to be delivered to holders of Company Capital Stock shall in each case be rounded down to the nearest whole number of shares after aggregating all shares delivered to a Company Securityholder and cash in lieu of such fractional Parent Common Stock shall be delivered to the applicable holder(s) of Company Capital Stock in accordance with **Section 2.8(b)**.

(ii) Each share of Company Capital Stock held in the treasury of the Company or by Parent or Merger Sub immediately prior to the Effective Time shall be canceled and extinguished without any conversion thereof and no payment or distribution shall be made with respect thereto.

(b) Treatment of Company Options. At the Effective Time, by virtue of the Merger and without any action on the part of Parent, Merger Sub, the Company or the holders of Company Options, each then outstanding and unexercised Company Option (whether vested or unvested) shall, by virtue of the Merger, be immediately canceled and the holder thereof shall be entitled to receive, in consideration of such cancellation and subject to compliance with and in the manner provided in **Section 2.8**, including the delivery of a duly executed and completed Optionholder Letter of Transmittal:

(i) in the case of an Accredited Investor, for each share of Company Capital Stock subject to such Company Options, (1) (x) the Per Company Option Closing Consideration, minus (y) the Per Share Escrow Amount to be withheld and contributed to the Escrow Fund, plus (2) any Additional Per Share Escrow Consideration, plus (3) any Per Share [***] Milestone Consideration, plus (4) any Per Share [***] Milestone Consideration, plus (5) any Per Share [***] Milestone Consideration, plus (6) the Per Share Underpayment Amount, minus (7) the Per Share Overpayment Amount; *provided*, that the Parent Common Stock to be delivered to holders of Company Capital Stock shall in each case be rounded down to the nearest whole number of shares after aggregating all shares delivered to a Company Securityholder and cash in lieu of such fractional Parent Common Stock shall be delivered to the applicable holder(s) of Company Capital Stock in accordance with **Section 2.8(h)**; and

(ii) in the case of a Non-Accredited Investor, for each share of Company Capital Stock subject to such Company Options, (1) (x) the Per Company Option Closing Consideration minus

(y) an amount of cash equal to the Per Share Escrow Amount, to be withheld and contributed to the Escrow Fund, plus (2) any Additional Per Share Escrow Consideration, plus (3) an amount of cash equal to any Per Share [***] Milestone Consideration Value, plus (4) any Per Share [***] Milestone Consideration, plus (5) any Per Share [***] Milestone Consideration, plus (6) the Per Share Underpayment Amount, minus (7) the Per Share Overpayment Amount.

(iii) To the extent applicable, any amounts payable under this **Section 2.6(b)** to holders of Company Options who are current or former employees of the Company shall be paid in accordance with Treasury Regulation Section 1.409A-3(i)(5)(iv)(A), and, in connection therewith, if required by Section 409A of the Code, all such amounts shall either be paid not later than (1) five years following consummation of the transactions contemplated by this Agreement or (2) two and one-half months following the end of the calendar year in which the applicable payment is no longer subject to a substantial risk of forfeiture.

(c) Treatment of Company SAFEs.

(i) Prior to the Effective Time, the Company shall deliver notice of the transactions contemplated hereby to each Company SAFE Holder in accordance with the terms of the relevant Company SAFE. Prior to the Effective Time, the Company shall cause each Company SAFE to be converted into shares of Common Stock, in which case such shares of Common Stock that are outstanding immediately prior to the Effective Time shall be automatically converted into the right to receive the consideration in accordance with **Section 2.6(a)(i)**.

(ii) Prior to the Closing, the Company shall take or cause to be taken such actions, including providing any required notices, and obtain all such consents as may be required to effect the foregoing provisions of **Section 2.6(c)(i)** and to cause each of the Company SAFEs to be converted in accordance with the terms thereof, and to ensure that, from and after the Effective Time, Company SAFE Holders have no rights with respect thereto other than those specifically provided in **Section 2.6(a)(i)** and **Section 2.6(c)(i)**.

(d) Effect on Capital Stock of Merger Sub.

(i) Merger Sub. Each share of common stock of Merger Sub issued and outstanding immediately prior to the Effective Time shall be converted into and exchanged for one validly issued, fully paid and non-assessable share of common stock of the Surviving Corporation. Each stock certificate of Merger Sub evidencing ownership of any shares of common stock shall continue to evidence ownership of such share of common stock of the Surviving Corporation.

(e) In no event shall the aggregate number of shares of Parent Common Stock issued hereunder (the "**Issued Shares**") exceed a number of shares equal to 19.9% of the number of shares of Parent Common Stock outstanding immediately prior to the Closing (the "**19.9% Threshold**"). In the event that the number of shares of Parent Common Stock otherwise comprising the Issued Shares would exceed the 19.9% Threshold, the number of shares of Parent Common Stock issued as part of the Merger Consideration will be cut back to the 19.9% Threshold and the cash paid as part of the Merger Consideration will be increased by an amount equal to the Parent Common Stock Price with respect to each cut back share of Parent Common Stock.

2.7 Dissenting Shares.

(a) Notwithstanding any provision of this Agreement to the contrary, shares of Company Capital Stock that are outstanding immediately prior to the Effective Time and which are held by Company Stockholders who have exercised and perfected appraisal rights for such shares of Company Capital Stock in accordance with the DGCL (collectively, the "**Dissenting Shares**") shall not be converted into or represent the right to receive any portion of the Merger Consideration. Such Company Stockholders shall be entitled only to such rights as are granted by the DGCL to a holder of Dissenting Shares, unless and until

such Company Stockholders fail to perfect or effectively withdraw or otherwise lose their appraisal rights under the DGCL. All Dissenting Shares held by Company Stockholders who shall have failed to perfect or who effectively shall have withdrawn or lost their right to appraisal of such shares of Company Capital Stock under the DGCL shall thereupon be deemed to have been converted into and to have become exchangeable for, as of the Effective Time, the right to receive the applicable portion of the Merger Consideration, without any interest thereon and less any applicable Tax withholding.

(b) The Company shall give Parent (i) prompt notice of any demands for appraisal received by the Company, withdrawals of such demands, and any other related instruments served pursuant to the DGCL and received by the Company and (ii) the opportunity to direct all negotiations and proceedings with respect to demands for appraisal under the DGCL. The Company shall not, except with the prior written consent of Parent, make any payment with respect to any demands for appraisal or offer to settle or settle any such demands.

2.8 Exchange Mechanics.

(a) At the Closing, Parent shall make, or cause to be made, (i) the payment and delivery to each Company Stockholder of the Per Share Closing Consideration in respect of each share of Company Capital Stock held by such Company Stockholder at the Effective Time, excluding the amounts to be withheld and contributed to the Escrow Fund in accordance with **Section 2.6**, (ii) the payment and delivery to each holder of Company Options (other than Employee Optionholders) the Per Company Option Closing Consideration in respect of each share of Company Capital Stock subject to such holder's Company Options that are surrendered for cancellation by such holder in accordance with **Section 2.8(b)(i)**, in each case excluding the amounts to be withheld and contributed to the Escrow Fund in accordance with **Section 2.6**, and (iii) payment of all Transaction Expenses included in the Estimated Transaction Expenses to the applicable counterparties in cash in immediately available funds. As soon as commercially practicable after the Effective Time (and in any event no later than the first regularly scheduled payroll of Parent immediately following the Closing), Parent shall make, or cause to be made, the payment and delivery to each Employee Optionholder the Per Company Option Closing Consideration in respect of each share of Company Capital Stock subject to such Employee Optionholder's Company Options that are surrendered for cancellation by such holder in accordance with **Section 2.8(b)(i)**, in each case excluding the amounts to be withheld and contributed to the Escrow Fund in accordance with **Section 2.6**.

(b) Exchange Procedures. Subject to the conditions set forth in this Agreement:

(i) Immediately prior to the Effective Time, each holder of Company Options shall deliver (A) in the case of holders of Company Options who are subject to income or employment Tax withholding by Parent, the Surviving Corporation or the Company and who are to receive their portion of the Merger Consideration from Parent, the Surviving Corporation or the Company ("**Employee Optionholders**"), an executed optionholder letter of transmittal in substantially the form attached hereto as Exhibit E-1 or (B) in the case of holders of Company Options who are not subject to income or employment Tax withholding by Parent, the Surviving Corporation or the Company and who are to receive their portion of the Merger Consideration from Parent, an executed optionholder letter of transmittal in substantially the form attached hereto as Exhibit E-2 (in each case, including a release in respect of Company securities and a provision whereby such holder agrees to be bound by the provisions of **Article 2**, **Article 9** and the other applicable provisions of this Agreement) (each an "**Optionholder Letter of Transmittal**"). In the case of Employee Optionholders, Parent shall pay, or cause to be paid, as soon as commercially practicable after the Effective Time (and in any event no later than the first regularly scheduled payroll of Parent immediately following the Closing) to each such Employee Optionholder the Per Company Option Closing Consideration in respect of each share of Company Capital Stock subject to such Employee Optionholder's Company Options so surrendered for cancellation by such holder, in each case excluding the amounts to be withheld and contributed to the Escrow Fund in accordance with **Section 2.6**. In the case of each holder of Company Options other

than Employee Optionholders, Parent shall pay, or cause to be paid, at the Closing to each such holder the Per Company Option Closing Consideration in respect of each share of Company Capital Stock subject to such holder's Company Options so surrendered for cancellation by such holder, in each case excluding the amounts to be withheld and contributed to the Escrow Fund in accordance with **Section 2.6).** No portion of the Per Company Option Closing Consideration (excluding the amounts to be withheld and contributed to the Escrow Fund in accordance with **Section 2.6**) or the Additional Per Share Escrow Consideration, the Per Share [***] Milestone Consideration (in the form of cash or stock, as applicable), the Per Share [***] Milestone Consideration or the Per Share [***] Milestone Consideration shall be delivered to the holder of any Company Option until the holder of record of such Company Option shall have delivered to Parent the Optionholder Letter of Transmittal.

(ii) Immediately prior to the Effective Time, each Company Stockholder shall deliver a stockholder letter of transmittal in substantially the form attached hereto as Exhibit D (the "**Stockholder Letter of Transmittal**" and together with the Optionholder Letters of Transmittal, the "**Letters of Transmittal**") to the address set forth opposite such holder's name on the Spreadsheet. Parent shall pay at the Closing to each Company Stockholder the Per Share Closing Consideration in respect of each share of Company Capital Stock held by such Company Stockholder at the Effective Time, excluding the amounts to be withheld and contributed to the Escrow Fund in accordance with **Section 2.6**. No portion of the Per Share Closing Consideration, the Per Share [***] Milestone Consideration, the Per Share [***] Milestone Consideration, the Per Share [***] Milestone Consideration or any Additional Per Share Escrow Consideration, as the case may be, in each case excluding the amounts to be withheld and contributed to the Escrow Fund in accordance with **Section 2.6**, shall be paid to any Company Stockholder until the holder of record of such Company Capital Stock shall have delivered to Parent the Stockholder Letter of Transmittal pursuant hereto.

(c) Legends. In the event that [***] Milestone Shares are issued to Company Securityholders prior to the [***], such shares of Parent Common Stock shall be subject to the following legend (along with any other legends that may be required under applicable Laws):

"THE SHARES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. NO TRANSFER MAY BE EFFECTED EXCEPT (1) PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO, (2) IN COMPLIANCE WITH RULE 144 PROMULGATED UNDER THE SECURITIES ACT OR (3) PURSUANT TO ANOTHER EXEMPTION FROM SUCH REGISTRATION, WHICH SHALL BE ESTABLISHED BY DELIVERY OF AN OPINION OF COUNSEL IN A FORM SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT OF 1933, AS AMENDED."

In the event that [***] Milestone Shares are issued on or after [***], such shares of Parent Common Stock shall not be subject to any such legends. At such time that any shares of Parent Common Stock issuable hereunder shall cease to be Restricted Shares, Parent shall direct the Parent's transfer agent to remove the legend required by the foregoing for such shares of Parent Common Stock immediately upon such shares ceasing to be Restricted Shares.

(d) Rule 144.

(i) With a view to making available to Company Securityholders the benefits of Rule 144 promulgated under the Securities Act ("**Rule 144**") or any other similar rule or regulation of the SEC that may at any time permit Company Securityholders to sell securities of Parent to the public without registration, for one (1) year following the Effective Time Parent will (i) make and keep public

information available, as those terms are understood and defined in Rule 144; and (ii) file with the SEC in a timely manner all reports and other documents required of the Parent under the Securities Act and the Securities and Exchange Act of 1934, as amended, so long as Parent remains subject to such requirements and the filing of such reports and other documents is required for the applicable provisions of Rule 144. In furtherance of the foregoing, to the extent that [***] Milestone Shares have been issued by Parent to the Company Securityholders prior to the six-month anniversary of the Closing, then Parent shall, at the six-month anniversary of the Closing, cause (i) any stop-transfer orders to be removed or lifted with respect to any such shares of Parent Common Stock and (ii) all stock legends regarding any such shares of Parent Common Stock removed.

(ii) In the event that any [***] Milestone Shares are issued but are not be publicly resalable under Rule 144 without restriction on and after the six month anniversary of the Closing Date by reason of Parent's failure to comply with the first sentence of **Section 2.8(d)(i)**, the following provisions shall apply:

(A) Parent shall file a Registration Statement on Form S-3 (or file an amendment to an existing Registration Statement on Form S-3) pursuant to Rule 415 under the Securities Act covering all [***] Milestone Shares to enable the resale on a delayed or continuous basis of such shares of Parent Common Stock by the Company Securityholders (in either case, the "**Registration Statement**") as soon as reasonably possible (and subject to applicable Law) after the later of (i) the six month anniversary of the Closing Date or (ii) the date of issuance of the [***] Milestone Shares pursuant to this Agreement. Parent shall use its commercially reasonable efforts to cause any such Registration Statement to become effective as soon as practicable following the filing thereof. Within two Business Days of effectiveness of the Registration Statement, Parent shall file a final prospectus thereunder to facilitate the resale by Company Securityholders of all [***] Milestone Shares in ordinary brokerage transactions and transactions in which a broker-dealer solicits purchases and in such other manner as may be requested by the Securityholder Representative.

(B) Each Company Securityholder shall furnish all information regarding the distribution of such Company Securityholder's shares of Parent Common Stock and such other information relating to such Company Securityholder and his, her or its ownership of such shares of Parent Common Stock as reasonably requested by Parent in writing for inclusion in the Registration Statement and any related prospectus, and if any such Company Securityholder fails to provide such information within a reasonable time after receiving such request, Parent may exclude from registration such Company Securityholder.

(C) Parent shall use its reasonable best efforts to have the Registration Statement promptly declared effective by the SEC. Parent shall use reasonable best efforts to keep the Registration Statement continuously effective pursuant to Rule 415 promulgated under the Securities Act, and available for resales of [***] Milestone Shares at all times until the earlier of (i) the date as of which all such shares of Parent Common Stock shall cease to be Restricted Shares or (ii) the date on which all such shares of Parent Common Stock have been sold (the "**Registration Period**"). The Registration Statement (including any amendments or supplements thereto and prospectuses contained therein) shall not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein, or necessary to make the statements therein, in light of the circumstances in which they were made, not misleading; provided, however, that Parent shall not be liable with respect to any information furnished to Parent by the Securityholder Representative on behalf of the Company Securityholders in writing specifically for use in the preparation of such Registration Statement (including any amendments or supplements thereto and prospectuses contained therein).

(D) Parent shall, as required by applicable securities regulations, from time to time file with the SEC, pursuant to Rule 424 promulgated under the Securities Act, the prospectus and prospectus supplements, if any, to be used in connection with sale of the [***] Milestone Shares under the Registration Statement.

(E) Parent shall prepare and file with the SEC such amendments (including post-effective amendments) and supplements to the Registration Statement and the prospectus used in connection with such Registration Statement, as may be necessary to keep the Registration Statement effective at all times during the Registration Period, and, during such period, comply with the provisions of the Securities Act with respect to the disposition of the [***] Milestone Shares covered by the Registration Statement until such time as all of such shares of Parent Common Stock shall have been disposed of in accordance with the intended methods of disposition by the seller or sellers thereof as set forth in the Registration Statement.

(F) Parent shall promptly notify the Securityholder Representative of the effectiveness of the Registration Statement applicable to the [***] Milestone Shares. Upon request of Securityholder Representative, Parent shall furnish to Securityholder Representative, without charge, (i) promptly after the same is prepared and filed with the SEC, as many copies of the Registration Statement and any amendment(s) thereto, including financial statements and schedules, all documents incorporated therein by reference and all exhibits, (ii) upon the effectiveness of any Registration Statement, as many copies of the prospectus included in such Registration Statement and all amendments and supplements thereto (or such other number of copies as the Securityholder Representative may reasonably request) and (iii) as many copies of such other documents, including copies of any preliminary or final prospectus, in each case as the Securityholder Representative may reasonably request from time to time to facilitate the resale of the [***] Milestone Shares as described in the Registration Statement.

(G) Parent shall immediately notify the Securityholder Representative (A) of the happening of any event as a result of which the prospectus included in such Registration Statement, as then in effect, includes an untrue statement of a material fact or omits to state any material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading, and (B) in such event, to suspend sales of such shares of Parent Common Stock. In such event, Parent shall promptly prepare and file a supplement to or an amendment of such prospectus as may be necessary so that such prospectus shall not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they are made, not misleading. Parent shall, if necessary, promptly amend the Registration Statement of which such prospectus is a part to reflect such amendment or supplement.

(H) Parent shall use commercially reasonable efforts to (i) register and qualify the [***] Milestone Shares covered by the Registration Statement on or prior to the date on which the Registration Statement is declared effective under such other securities or "blue sky" laws of such jurisdictions in the United States as Securityholder Representative reasonably requests, (ii) prepare and file in those jurisdictions, such amendments (including post-effective amendments) and supplements to such registrations and qualifications as may be necessary to maintain the effectiveness thereof during the Registration Period, (iii) take such other actions as may be necessary to maintain such registrations and qualifications in effect at all times during the Registration Period, and (iv) take all other actions reasonably necessary or advisable to qualify the [***] Milestone Shares for sale in such jurisdictions; provided, that Parent shall not be required in connection therewith or as a condition thereto to (x) qualify to do business in any jurisdiction where it would not otherwise be required to qualify but for this Section, (y) subject itself to general

taxation in any such jurisdiction, or (z) file a general consent to service of process in any such jurisdiction. Parent shall promptly notify Securityholder Representative of the receipt by Parent of any notification with respect to the suspension of the registration or qualification of any of the [***] Milestone Shares for sale under the securities or "blue sky" laws of any jurisdiction in the United States or its receipt of actual notice of the initiation or threatening of any proceeding for such purpose.

(I) Parent shall use its commercially reasonable efforts to prevent the issuance of any stop order or other suspension of effectiveness of the Registration Statement, or the suspension of the qualification of any [***] Milestone Shares for sale in any jurisdiction and, if such an order or suspension is issued, to obtain the withdrawal of such order or suspension as promptly as possible. Parent shall as promptly as practicable notify the Securityholder Representative of the issuance of such order and the resolution thereof or its receipt of notice of the initiation or threat of any proceeding for such purpose.

(J) Parent shall, with the cooperation of the Securityholder Representative as reasonably requested, to facilitate the timely preparation and delivery of certificates in book entry form representing the shares of Parent Common Stock to be sold (not bearing any restrictive legends) in connection with permitted resales thereof under the Registration Statement following and during the effectiveness of the Registration Statement.

(K) Notwithstanding anything to the contrary in this Agreement, Parent shall be entitled to delay the filing or effectiveness of, or suspend the use of, the Registration Statement if [***].

(L) All expenses of incident to Parent's performance of or compliance with this Section shall be paid by Parent.

(M) [***]

(e) Return of the Merger Consideration. Any former holder of Company Capital Stock or holder of Company Options that has not complied with this **Section 2.8** by delivering the requisite Letter of Transmittal and Compliance Certificate (if applicable) as of the Effective Time shall thereafter look only to Parent (subject to abandoned property, escheat or other similar Laws) but only as a general creditor thereof for payment of its claim for its portion of the Merger Consideration. Any portion of the Merger Consideration that remains unclaimed immediately prior to the date on which it would otherwise become subject to any abandoned property, escheat or similar Law, shall, to the extent permitted by applicable Law, become the property of Parent, free and clear of all claims or interest of any Person previously entitled thereto. No interest shall be payable for any shares of Parent Common Stock delivered to Parent pursuant to this **Section 2.8(e)** or cash which is subsequently delivered to any former holder of Company Capital Stock or holder of Company Options.

(f) No Further Rights in the Company Capital Stock. The applicable portion of the Merger Consideration paid or payable in respect of the surrender for exchange of shares of the Company Capital Stock in accordance with the terms hereof shall be deemed to have been paid in full satisfaction of all rights pertaining to such shares and there shall be no further registration of transfer on the records of the Surviving Corporation of such shares that were outstanding immediately prior to the Effective Time.

(g) No Liability. Notwithstanding anything to the contrary in this **Section 2.8**, none of Parent, the Surviving Corporation or any other party hereto shall be liable to any holder of any Company Capital Stock or any holder of any Company Options for any amount paid to a public official pursuant to any abandoned property, escheat or similar Law.

(h) No Fractional Shares. Notwithstanding any other provision of this Agreement, in connection with the payment and delivery of [***] Milestone Shares, no fractional shares of Parent Common Stock shall be issued in exchange for any Company Capital Stock or Company Options, and no holder of any of the foregoing shall be entitled to receive a fractional share of Parent Common Stock. In the event that any holder of Company Capital Stock or Company Options would otherwise be entitled to receive a fractional share of Parent Common Stock (after aggregating all shares and fractional shares of Parent Common Stock issuable to such holder), then such holder shall be paid an amount in Dollars (without interest) determined by multiplying (i) the Parent Common Stock Price by (ii) the fraction of a share of Parent Common Stock to which such holder would otherwise be entitled. The parties acknowledge that payment of cash consideration in lieu of issuing fractional shares of Parent Common Stock was not separately bargained for consideration but represents merely a mechanical rounding off for purposes of simplifying the problems that would otherwise be caused by the issuance of fractional shares of Parent Common Stock.

2.9 Net Debt Adjustment.

(a) The Company has prepared in good faith and delivered to Parent a certificate, dated as of the date hereof, certified by the Company setting forth the Company's good faith estimated calculation of: (A) the unpaid Transaction Expenses as of immediately prior to the Closing ("**Estimated Transaction Expenses**"), (B) the unpaid Indebtedness of the Company as of immediately prior to the Closing ("**Estimated Indebtedness**"), (C) Cash as of immediately prior to the Closing ("**Estimated Cash**"), and (D) a calculation of the Net Debt Adjustment Amount, as any such amounts may be modified as agreed to between the Company and Parent pursuant to this **Section 2.9** (the "**Estimated Closing Statement**"). The Estimated Transaction Expenses, the Estimated Indebtedness and the Estimated Cash shall be prepared in accordance with the definitions for each such amount. The Company shall also provide reasonable detail supporting each such calculation.

(b) Following receipt of the Estimated Closing Statement, the Company shall permit Parent and its representatives at all reasonable times and upon reasonable notice to review the Company's working papers relating to the Estimated Closing Statement (including the Estimated Transaction Expenses, the Estimated Indebtedness and the Estimated Cash) as well as all of the Company's accounting books and records relating to the determination of the Estimated Closing Statement, and the Company shall make reasonably available its representatives responsible for the preparation of the Estimated Closing Statement in order to respond to the reasonable inquiries of Parent.

(c) The "**Net Debt Adjustment Amount**" means an amount equal to (i) the Estimated Indebtedness plus (ii) the Estimated Transaction Expenses minus (iii) the Estimated Cash.

(d) Post-Closing Adjustment.

(i) Within [***] after the Closing Date, Parent shall prepare in good faith and deliver to the Securityholder Representative a certificate certified by Parent setting forth Parent's calculation of (A) the unpaid Transaction Expenses as of immediately prior to the Closing (the "**Closing Transaction Expenses**"), (B) the unpaid Indebtedness of the Company as of immediately prior to the Closing (the "**Closing Indebtedness**"), (C) Cash as of immediately prior to the Closing ("**Closing Cash**") and (D) a calculation of the Closing Net Debt Amount, as any such amounts may be modified as agreed to between the Company and Parent pursuant to this **Section 2.9** (the "**Closing Statement**"). The Closing Transaction Expenses, the Closing Indebtedness and the Closing Cash shall be prepared in accordance with the definitions for each such amount. Parent shall also provide reasonable detail supporting each such calculation. The "**Closing Net Debt Amount**" means an amount equal to (x) the Closing Indebtedness plus (y) the Closing Transaction Expenses minus (z) the Closing Cash.

(ii) Following delivery to the Securityholder Representative of Parent's Closing Statement and until the Closing Adjustment is finally determined pursuant to this **Section 2.9(d)**, the

Securityholder Representative shall be permitted to review Company's working papers and such other information as it may reasonably request, in each case, related to the Closing Statement and determination of the amounts included therein. The Closing Net Debt Amount in the Closing Statement shall become final and binding on the parties [***] following Parent's delivery of the Closing Statement to the Securityholder Representative, unless the Securityholder Representative delivers written notice of its disagreement thereto or with respect to the Closing Transaction Expenses, the Closing Indebtedness, or Closing Cash included in the Closing Statement ("**Notice of Disagreement**") to Parent in either case on or prior to such date. If a timely Notice of Disagreement is delivered by the Securityholder Representative, then on the earlier of (a) the date Parent and the Securityholder Representative resolve in writing any differences they have with respect to the matters specified in the Notice of Disagreement, and (b) the date all matters in dispute are finally resolved in writing by the Firm, the Closing Net Debt Amount (as adjusted in accordance with this **Section 2.9(d)**) shall become final and binding on the parties. For purposes of this **Section 2.9(d)**, "**Firm**" means a nationally recognized accounting firm (other than the auditor for either Parent or Company) that is reasonably acceptable to Parent and the Securityholder Representative.

(iii) During the [***] following delivery of a Notice of Disagreement, Parent and the Securityholder Representative shall use commercially reasonable efforts to resolve in writing any differences which they may have with respect to the matters specified in the Notice of Disagreement. At the end of such [***] period, if no resolution has been reached, Parent and the Securityholder Representative shall submit such dispute to the Firm for resolution of all matters which remain in dispute which were included in the Notice of Disagreement, and the Firm shall make a final determination of the Closing Cash, Closing Indebtedness, Closing Transaction Expenses and Closing Net Debt Amount in accordance with the terms of this Agreement (with it being understood that the parties will request that the Firm deliver to the parties its resolution in writing not more than [***] after its engagement). The Firm shall make a determination only with respect to the matters still in dispute and, with respect to each such matter, its determination shall be within the range of the dispute between Parent and the Securityholder Representative. The Firm's determination shall be based solely on written materials submitted by Parent and the Securityholder Representative (*i.e.*, not on independent review) and on the definitions included herein and the provisions of this Agreement. Any determinations by the Firm, and any work or analyses performed by the Firm in connection with its resolution of any dispute under this **Section 2.9(d)** shall not be admissible in evidence in any suit, action or other proceeding between the parties, other than to the extent necessary to enforce payment obligations under this **Section 2.9(d)**.

(iv) The costs and expenses of the Firm shall be allocated between Parent and the Securityholder Representative (on behalf of the Company Securityholders) based upon the percentage of the portion of the contested amount not awarded to Parent or the Company Securityholders compared to the amount actually contested by such party. For example, if the Securityholder Representative claims the Closing Net Debt Amount is $1,000 lower than the amount claimed by Parent, and Parent contests only $500 of the amount claimed by the Securityholder Representative, and if the Firm ultimately resolves the dispute by awarding the Company Securityholders $300 of the $500 contested, then the costs and expenses of the Firm will be allocated 60% (*i.e.*, 300 ÷ 500) to Parent and 40% (*i.e.*, 200 ÷ 500) to the Securityholder Representative (on behalf of the Company Securityholders).

(v) If the difference between the Net Debt Adjustment Amount and the Closing Net Debt Amount as finally determined under this **Section 2.9(d)** is negative (the inverse of the amount of such difference, the "**Underpayment Amount**"), then, reasonably promptly after the date on which the Closing Net Debt Amount shall be finalized in accordance with this **Section 2.9(d)**, such Underpayment Amount shall be deemed additional Merger Consideration and shall be paid pursuant to the terms of **Section 2.6** to the Company Securityholders.

(vi) If the difference between the Net Debt Adjustment Amount and the Closing Net Debt Amount as finally determined under this **Section 2.9(d)** is positive (the amount of such difference, the "**Overpayment Amount**"; any Underpayment Amount or Overpayment Amount determined in accordance with this **Section 2.9(d)** shall be the "**Closing Adjustment**"), then, reasonably promptly after the date on which the Closing Net Debt Amount shall be finalized in accordance with this **Section 2.9(d)**, Parent and the Securityholder Representative shall provide joint written instructions to the Escrow Agent to transfer to Parent, out of the Escrow Fund, the Overpayment Amount.

(vii) All payments required pursuant to this **Section 2.9(d)** shall be deemed to be adjustments for Tax purposes to the aggregate purchase price paid by Parent for the Company Capital Stock.

2.10 Notices.

(a) Immediately following the execution and delivery of this Agreement and prior to the Effective Time, the Company shall deliver the Stockholder Consent, which shall constitute all requisite approvals by any holders of Company Capital Stock of this Agreement, the Merger and the other transactions contemplated hereby.

2.11 Withholding. Notwithstanding any other provision of this Agreement, the Company, Parent, the Surviving Corporation and the Escrow Agent shall be entitled to deduct and withhold from any consideration payable or otherwise deliverable pursuant to this Agreement, such amounts as are required to be deducted or withheld therefrom under any provision of applicable Laws; provided, that Parent shall use commercially reasonable efforts to consult with the applicable payee prior to withholding any amounts payable hereunder and to cooperate with the applicable payee to minimize or eliminate any such withholding. To the extent such amounts are so deducted or withheld and remitted to the applicable Governmental Entity, such amounts shall be treated for all purposes under this Agreement as having been paid to the Person to whom such amounts would otherwise have been paid. Any amounts payable to Company Securityholders that require employment Tax withholding shall be paid through the Company's payroll.

2.12 Tax Consequences. Other than as expressly set forth in this Agreement, no party to this Agreement makes any representations or warranties to any other party regarding the Tax treatment of the transactions pursuant to this Agreement, including the Merger, or any of the Tax consequences to any other party of this Agreement, the Merger or any of the other transactions or agreements contemplated hereby. Each party to this Agreement acknowledges that it is relying solely on its own Tax advisors in connection with this Agreement, the Merger and the other transactions and agreements contemplated hereby.

2.13 Taking of Necessary Action; Further Action. If at any time after the Effective Time, any further action is necessary or desirable to carry out the purposes of this Agreement or to vest the Surviving Corporation with full right, title and possession to all assets, property, rights, privileges, powers and franchises of the Company in accordance with this Agreement and the DGCL, then the officers and directors of the Surviving Corporation, Parent and Merger Sub are fully authorized to take, and will take, all such lawful and necessary actions.

2.14 Expense Fund. Immediately prior to the Closing, the Company, or if and to the extent requested by the Company, Parent, will wire, in immediately available funds, the Expense Fund to the Securityholder Representative, which Expense Fund will be governed by the terms and conditions set forth in **Section 9.7(d)**. Any amount of the Expense Fund that is wired by Parent to the Securityholder Representative upon the Company's request shall be deemed to be a Transaction Expense and included in the Estimated Transaction Expenses.

ARTICLE 3

REPRESENTATIONS AND WARRANTIES OF THE COMPANY

The Company hereby represents and warrants to Parent as of the date hereof and as of the Closing, subject to such exceptions as are specifically disclosed in the disclosure schedule (referencing the appropriate section and subsection numbers or disclosed in any other section or subsection of the disclosure schedule, *provided*, that it is reasonably apparent upon reading the disclosure in such other section or subsection that such disclosure is responsive to the appropriate section or subsection of this **Article 3**) supplied by the Company to Parent (the "**Company Disclosure Schedule**") concurrently with the execution of this Agreement:

3.1 Organization of the Company.

(a) The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware and has the requisite corporate power and authority to own, lease and operate its assets and properties and to carry on its business as currently conducted. The Company is duly qualified or licensed as a foreign corporation or company to do business, and is in good standing, in each jurisdiction where the character or location of its assets or properties (whether owned, leased or licensed) or the nature of its activities make such qualification or licensing necessary to the business of the Company as currently conducted except where the failure to be so qualified or licensed, individually or in the aggregate, both (i) has not had and would not reasonably be expected to have a Company Material Adverse Effect and (ii) has not had and would not be reasonably expected to have a material adverse effect on the ability of the Company to perform its obligations under this Agreement or any Related Agreement to which it is a party or to consummate the transactions contemplated hereby or thereby and would not materially impede or delay or be reasonably expected to materially impede or delay the consummation of the transactions contemplated hereby or thereby. The Company has made available to Parent a true and correct copy of its certificate of incorporation, as amended to date, and bylaws or articles of association, as amended to date, each of which is in full force and effect on the date hereof (or equivalent documents for limited liability companies, collectively, the "**Charter Documents**"). The Board of Directors of the Company has not approved or currently proposed any amendment to any of the Charter Documents to the Company Stockholders.

(b) **Section 3.1(b)** of the Company Disclosure Schedule lists the respective directors, managers, partners and officers of the Company.

(c) **Section 3.1(c)** of the Company Disclosure Schedule lists, by legal entity, every state or foreign jurisdiction in which the Company has employees or facilities since inception of the Company or such Subsidiary.

3.2 Company Capital Structure.

(a) The authorized capital stock of the Company consists of [***] shares of Company Capital Stock, of which (i) [***] shares are authorized as Common Stock, (ii) [***] shares are issued and outstanding as of the time of execution of this Agreement, and (iii) [***] shares will be issued and outstanding as of the Closing (including [***] shares issuable pursuant to Company SAFEs and [***]). All of the issued and outstanding shares of Company Capital Stock are duly authorized, validly issued, fully paid and non-assessable and are not subject to any Liens, preemptive rights created by statute, the Charter Documents, or any agreement to which the Company or any Subsidiary of the Company is a party or by which it is bound. Except as set forth on **Section 3.3** of the Company Disclosure Schedule, all of the issued and outstanding equity securities of each Subsidiary of the Company are duly authorized, validly issued, fully paid and non-assessable and are not subject to any Liens, preemptive rights created by statute, organizational documents, or any agreement to which the Company or any Subsidiary of the Company is a party or by which it is bound. As of the date hereof, the Company Capital Stock is held by the Persons with

the domicile addresses and in the amounts of each class as set forth on **Section 3.2(a)** of the Company Disclosure Schedule, which further sets forth for each such Person the number, class and series of shares held by such Person, the percentage held by such Person relative to each class or series of shares such Person owns and the total issued and outstanding shares of Company Capital Stock as of the date hereof. Except as set forth on **Section 3.2(a)** of the Company Disclosure Schedule, the number of vested and unvested shares as of the date hereof, and each repurchase and redemption right held by the Company to which any shares of Company Capital Stock are subject, there are no outstanding shares of Company Capital Stock or any equity securities of any Subsidiary of the Company that constitute restricted stock or that are otherwise subject to a repurchase or redemption right. There have been no dividends with respect to any shares of Company Capital Stock or any equity securities of any Subsidiary of the Company, and there are no declared or accrued but unpaid dividends with respect to any shares of Company Capital Stock or any equity securities of any Subsidiary of the Company. Except as set forth in this **Section 3.2(a)**, the Company has no other capital stock authorized, issued or outstanding.

(b) All outstanding shares of Company Capital Stock, equity securities of each Subsidiary of the Company, Company Options, and other equity or equity based awards of the Company or any Subsidiary of the Company have been issued in compliance with all applicable federal, state, local or foreign statutes, Laws, rules or regulations, including federal securities Laws and any applicable state securities or "blue sky" Laws.

(c) Except as set forth in **Section 3.2(c)** of the Company Disclosure Schedule, the Company has never adopted, sponsored or maintained any stock option plan or any other plan or agreement providing for equity or equity related compensation to any Person. The Company has reserved [***] shares of Company Capital Stock for issuance under the Company's 2018 Equity Incentive Plan (as amended, the "**Stock Plan**"), of which options to purchase [***] shares of Company Capital Stock are outstanding as of the date of this Agreement **Section 3.2(c)** of the Company Disclosure Schedule also sets forth with respect to each Company Option that is outstanding: (i) the name and domicile address of the holder of such Company Option; (ii) whether such Company Option has vested and the vesting schedule applicable to such Company Option (including any acceleration provisions); (iii) the type and number of shares of Company Capital Stock issuable upon the exercise of such Company Option; (iv) the grant date and expiration date of such Company Option; (v) the exercise price per share of Company Capital Stock purchasable under such Company Option; and (vi) whether such Company Option qualifies as an "incentive stock option" as defined in Section 422 of the Code.

(d) **Section 3.2(d)** of the Company Disclosure Schedule sets forth, as of the date hereof, for each Company SAFE, the name of the holder thereof, the date of issuance of such Company SAFE and the purchase amount of such Company SAFE. True and complete copies of all agreements and instruments evidencing or otherwise relating to the Company SAFEs have been made available to Parent, and such agreements and instruments have not been amended, modified or supplemented other than as provided in this Agreement, and there are no agreements to amend, modify or supplement such agreements or instruments from the agreements made available to Parent. No Company SAFEs are subject to any right of rescission, right of first refusal or preemptive right and all Company SAFEs have been issued in compliance with Law and all requirements set forth in applicable Contracts. All Company SAFEs and any shares of Company Capital Stock issued upon the conversion thereof have been granted in compliance with applicable Law and all requirements set forth in applicable Contracts.

(e) Except as set forth in **Section 3.2(e)** of the Company Disclosure Schedule, there are no options, warrants, calls, rights, convertible securities, commitments or agreements of any character, written or oral, to which the Company or any Subsidiary of the Company is a party or by which the Company or any Subsidiary of the Company is bound obligating the Company or any Subsidiary of the Company to reduce its capital or issue, deliver, sell, repurchase, cancel or redeem, or cause to be issued, delivered, sold, repurchased or redeemed, any shares of Company Capital Stock or any equity securities of any Subsidiary of the Company or obligating the Company or any Subsidiary of the Company to grant,

extend, accelerate the vesting of, change the price of, otherwise amend or enter into any such option, warrant, call, right, commitment or agreement. There are no outstanding or authorized stock appreciation, phantom stock, profit participation, or other similar rights with respect to the Company or any Subsidiary of the Company.

(f) Except as set forth in **Section 3.2(f)** of the Company Disclosure Schedule and except as contemplated hereby, there are no (i) voting trusts, proxies, or other agreements or understandings with respect to the voting stock of the Company or any Subsidiary of the Company or (ii) agreements to which the Company or any Subsidiary of the Company is a party relating to the registration, sale or transfer (including agreements relating to rights of first refusal, co sale rights or "drag along" rights) of any Company Capital Stock or any equity securities of any Subsidiary of the Company.

(g) The Fundamental Spreadsheet Information in the Spreadsheet is accurate, correct and complete in all respects and it reflects an allocation of the Merger Consideration that is in all respects consistent with, and determined in accordance with, the applicable provisions of the Charter Documents.

(h) The information provided in the Spreadsheet that is not Fundamental Spreadsheet Information is accurate, correct and complete in all respects.

3.3 Subsidiaries. The Company does not own or control and has never owned or controlled, directly or indirectly, any interest in any other corporation, partnership, trust, joint venture, limited liability company, association, or other business entity. The Company is not and has never been a partner, member or other equity holder in any joint venture, partnership or similar legal entity or organization.

3.4 Authority; Enforceability.

(a) The Company has all requisite power and authority to enter into this Agreement and any Related Agreements to which it is a party and, subject to obtaining the Stockholder Consent, to consummate the Merger and to consummate the other transactions contemplated hereby and thereby. The execution, delivery and performance of this Agreement and any Related Agreements to which the Company is a party and the consummation of the Merger and other transactions by the Company contemplated hereby and thereby have been duly authorized by all necessary corporate action on the part of the Company and no further corporate action is required on the part of the Company to authorize this Agreement and any Related Agreements to which it is a party, the Merger or the other transactions contemplated hereby and thereby (other than, in the case of the consummation of the Merger, obtaining the Stockholder Consent and the filing and recordation of the Certificate of Merger as required by the DGCL).

(b) This Agreement and the Merger have been unanimously approved by the Board of Directors of the Company. This Agreement and each of the Related Agreements to which the Company is a party have been duly executed and delivered by the Company and assuming the due authorization, execution and delivery by the other parties hereto and thereto, constitute the valid and binding obligations of the Company enforceable against it in accordance with their respective terms, subject to (i) Laws of general application relating to bankruptcy, insolvency and the relief of debtors, and (ii) rules of Law governing specific performance, injunctive relief and other equitable remedies.

3.5 Stockholder Consent. The Stockholder Consent, when executed and delivered, will satisfy all requirements for consents, votes or approvals by the holders of any classes or series of Company Capital Stock necessary to approve and adopt, and consummate, this Agreement, the Merger, the Related Agreements to which the Company is party and the transactions contemplated hereby and thereby in accordance with the Charter Documents and applicable Law.

3.6 No Conflict. The execution and delivery by each of the Company of this Agreement and any Related Agreement to which it is a party, and the consummation of the Merger or any other transactions contemplated hereby and thereby, will not conflict with or result in any violation of or default under (with or without notice or lapse of time, or both), or give rise to a right of notice or termination, cancellation,

modification or acceleration of any right or obligation or loss of any benefit under (any such event, a "**Conflict**"), (i) any provision of the Charter Documents or any organizational documents of any Subsidiary of the Company, (ii) any Contract to which the Company or any Subsidiary of the Company is a party or by which any of the Company's properties or assets are bound, or (iii) any Laws applicable to the Company or any of its properties or assets (whether tangible or intangible). **Section 3.6** of the Company Disclosure Schedule sets forth all necessary consents, waivers, amendments or approvals of parties to any Contracts to which the Company or any Subsidiary of the Company is a party or by which any of the Company's properties or assets may be bound as are required thereunder in connection with the Merger, or for any such Contract to remain in full force and effect without limitation, modification, acceleration of payment or other obligations thereunder, or alteration after the closing of the transactions contemplated hereby. Following the Closing, the Company will continue to be permitted to exercise all of its rights under the Contracts without the payment of any additional amounts or consideration other than ongoing fees, royalties or payments which the Company would otherwise be required to pay (without acceleration) pursuant to the terms of such Contracts had the transactions contemplated by this Agreement not occurred, except in each case any such restrictions or payments arising as a result of any Contract to which Parent or any of its Affiliates is a party or otherwise bound or any Law or Order to which Parent or any of its Affiliates is subject.

3.7 Consents. No consent, notice, waiver, approval, order or authorization of, or registration, declaration or filing with any Governmental Entity is required by, or with respect to, the Company in connection with the execution and delivery of this Agreement and any Related Agreement to which the Company is a party or the consummation of the Merger and the other transactions contemplated hereby and thereby, except for (i) the filing of a Certificate of Merger as provided in **Section 2.2**, (ii) such consents, notices, waivers, approvals, orders, authorizations, registrations, declarations and filings as may be required under applicable securities Laws and (iii) such filings and notifications as may be required under the HSR Act, or any other applicable federal, state or foreign Laws or other legal restraint designed to govern competition or prohibit, restrict or regulate actions with the purpose or effect of monopolization or restraint of trade (collectively "**Antitrust Laws**"), to be made by the Company, or by its "ultimate parent entity" as that term is defined in the HSR Act, and the expiration or early termination of any applicable waiting periods under the HSR Act or applicable foreign Antitrust Laws.

3.8 Company Financial Statements.

(a) **Section 3.8(a)** of the Company Disclosure Schedule sets forth the Financials. The Financials are true and correct in all material respects. The Company's balance sheet as of the Balance Sheet Date is referred to hereinafter as the "**Current Balance Sheet**."

3.9 No Undisclosed Liabilities, No Company Material Adverse Effect; Ordinary Course.

(a) The Company has no material Liabilities of any type, whether or not accrued, absolute, contingent, matured, unmatured, known or not known, on- or off-balance sheet, except for those which (i) have been reflected in the Current Balance Sheet, (ii) have arisen in the ordinary course of business since the Balance Sheet Date and are reflected in the certificate delivered under **Section 2.9(a)**, (iii) for Transaction Expenses or Indebtedness or (iv) are Excluded Employment Liabilities.

(b) Since the Balance Sheet Date, there has not occurred any Company Material Adverse Effect.

3.10 Tax Matters.

(a) Taxes.

(i) The Company has (A) prepared and filed all Tax Returns required to be filed by the Company and all such Tax Returns are true and correct in all material respects, and (B) paid all Taxes that were due and payable (whether or not shown on a Tax Return).

(ii) The Company has paid or withheld with respect to its employees, stockholders and other third parties, all U.S. federal, state and non-U.S. income Taxes and social security charges and similar fees, Federal Insurance Contribution Act taxes, Federal Unemployment Tax Act taxes and other Taxes required to be paid or withheld, and have paid over any such Taxes to the appropriate authorities.

(iii) There is no Tax deficiency outstanding, assessed or proposed in writing against the Company, nor has the Company executed any waiver of any statute of limitations on or extending the period for the assessment or collection of any Tax, which waiver or extension or still in effect.

(iv) Except as set forth on **Section 3.10(a)(iv)** of the Company Disclosure Schedule, no audit or other examination of any Tax Return of the Company is presently in progress, nor has the Company been notified in writing of any request for such an audit or other examination. No adjustment relating to any Tax Return filed by the Company has been proposed in writing by any Tax authority, which adjustment has not been resolved.

(v) The Company has delivered to Parent or made available to Parent, copies of all income and other material Tax Returns for the Company filed for all periods since and including the taxable period ended December 31, 2018.

(vi) No written claim has ever been made by a Tax authority in a jurisdiction where the Company does not file Tax Returns that it is or may be subject to taxation by that jurisdiction.

(vii) The Company (A) is not a party to any Tax sharing, indemnification or allocation agreement, nor does the Company owe any amount under any such agreement, other than any agreement entered into in the ordinary course of business and the primary purpose of which is unrelated to Taxes or Tax Returns, (B) has no Liability for the Taxes of any Person (other than Company) under Treasury Regulation §1.1502-6 (or any similar provision of state, local or non-U.S. Law), as a transferee or successor, by Contract, by operation of Law or otherwise or (C) is not a party to any joint venture, partnership or other arrangement that is treated as a partnership for Tax purposes.

(viii) The Company has not been, at any time, a "United States Real Property Holding Corporation" within the meaning of Section 897(c)(2) of the Code during the applicable period specified in Section 897(c)(1)(A)(ii) of the Code.

(ix) There are (and immediately following the Effective Time there will be) no Liens on the assets of the Company relating or attributable to Taxes other than Liens for Taxes not yet due and payable or that are being contested in good faith pursuant to appropriate proceedings and for which adequate reserves have been established on the Financials in accordance with GAAP.

(x) The Company has not engaged in a "listed transaction," as set forth in Section 6707A(c)(2) of the Code and Treasury Regulation §1.6011-4(b) or any similar provision of state, local or non-U.S. Law, or any transaction that is the same as or substantially similar to one of the types of transactions that the IRS has determined to be a tax avoidance transaction and identified by notice, regulation or other form of published guidance as a listed transaction as set forth in Section 6707A(c)(1) of the Code and Treasury Regulation §1.6011-4(b)(2).

(xi) The Company has not constituted either a "distributing corporation" or a "controlled corporation" in a distribution of stock intended to qualify for tax-free treatment under Section 355 of the Code.

(xii) Any transfer of property which was subject to a substantial risk of forfeiture and which would otherwise have been subject to taxation under Section 83(a) of the Code is covered by a valid and timely filed election under Section 83(b) of the Code, and a copy of such election has been provided to the Company.

(xiii) The Company will not be required to include any item of material income in, or exclude any material item of deduction from, taxable income for any taxable period (or portion thereof) ending after the Closing Date as a result of (A) any installment sale or open transaction disposition made prior to the Closing, (B) any prepaid amount or deferred revenue received prior to the Closing, (C) any "closing agreement," as described in Section 7121 of the Code (or any corresponding provision of state, local or foreign income tax Law) entered into prior to the Closing, (D) a change in the method of accounting made prior to the Closing, including any adjustment pursuant to Code Sections 481 or 263A (or any corresponding or similar provision of state, local, or foreign income Tax law), (E) an election under Section 108(i) of the Code, (F) the use of an improper method of accounting for a taxable period ending on or prior to the Closing Date, or (G) application of Section 951 of the Code with respect to income earned or recognized or payments received prior to the Closing.

(xiv) The Company is not subject to any private letter ruling or closing agreement of the IRS or comparable rulings of any other Governmental Entity. There is no power of attorney given by or binding upon the Company with respect to Taxes for any period for which the statute of limitations (including any waivers or extensions) has not yet expired that is currently in effect.

(xv) The Company is not a party to a gain recognition agreement under Section 367 of the Code that is currently in effect.

(xvi) The Company has made available to Parent all documentation relating to any Tax holidays or incentives currently applicable to the Company. To the Knowledge of the Company, no amounts attributable to any Tax holidays or Tax incentives will be required to be repaid or reimbursed by the Company as a result of the transactions contemplated in this Agreement.

(xvii) The Company has not been and is not subject to Tax in a country other than its country of organization by virtue of having a place of business, a permanent establishment or branch in any country outside the country of its organization.

(xviii) The prices for any property or services (or for the use of any property) provided by or to the Company are arm's length prices for purposes of the relevant transfer pricing laws, including Treasury Regulations under Code Section 482.

(xix) The Company has not deferred any Taxes with respect to any Pre-Closing Tax Period to a period that is not a Pre-Closing Tax Period under Section 2302 of the CARES Act or IRS Notice 2020-65, or any similar state or local Law.

(b) Executive Compensation Tax and Parachute Payments. Except as set forth on **Section 3.10(b)** of the Company Disclosure Schedule or as expressly provided in this Agreement, none of the execution or delivery of this Agreement, the shareholder approval of this Agreement or the consummation of the transactions contemplated by this Agreement would be reasonably expected to, either alone or in conjunction with any other event (whether contingent or otherwise) (i) result in or cause the accelerated vesting payment, funding or delivery of, or increase the amount or value of, any payment or benefit to any employee, officer, director or other service provider of the Company, (ii) result in the forgiveness of any indebtedness of any employee, officer, director or other service provider of the Company, (iii) further restrict any rights of the Company to amend or terminate any Company Employee Plan or (iv) result in any "excess parachute payment" as defined in Section 280G(b)(2) of the Code (whether or not such payment is considered to be reasonable compensation for services rendered). No Company Employee Plan provides for any tax "gross-up" or similar "make-whole" payments. The per share exercise price of each Company Option was no less than the fair market value of a share of Company Capital Stock on the date of grant of such Company Option determined in a manner consistent with Section 409A of the Code. Each Company Employee Plan that constitutes in any part a nonqualified deferred compensation plan within the meaning of Section 409A of the Code has been operated and maintained in all material respects in operational and documentary compliance with Section 409A of the Code and applicable

guidance thereunder. No payment to be made under any Company Employee Plan is, or to the Knowledge of the Company will be, subject to the penalties of Section 409A(a)(1) of the Code.

3.11 Restrictions on Business Activities. There is no Contract (non-competition or otherwise), judgment, injunction, order or decree to which the Company is a party or otherwise binding upon the Company which has or may reasonably be expected to have the effect of prohibiting or impairing any business practice of the Company, any acquisition of property and assets (including tangible and intangible property and assets) by the Company, the conduct of business by the Company, or otherwise limiting the freedom of the Company to engage in any line of business or to compete with any Person. Without limiting the generality of the foregoing, the Company has not entered into any Contract under which the Company is restricted from developing, selling, licensing, manufacturing or otherwise distributing or commercializing any Company Intellectual Property or Company Products or from providing services to customers or potential customers or any class of customers, in any geographic area, during any period of time, or in any segment of the market, including by means of any grant of exclusivity.

3.12 Title to Properties; Status of Liens and Encumbrances.

(a) The Company does not own any real property, nor has the Company ever owned any real property.

(b) Except as set forth in **Section 3.12(b)** of the Company Disclosure Schedule, the Company has not entered into, nor is bound by, any lease, lease guaranty, sublease, agreement for the leasing, tenancy, license, other use or occupancy of, or otherwise granting a right in or relating to any real property nor is any Person in the course of acquiring any such rights or interests.

(c) The Company has good and valid title to, ownership of, or, in the case of leased properties and assets, valid leasehold interests in, all of its tangible properties and assets, real, personal and mixed, used or held for use in or necessary for the conduct of the business of the Company as currently conducted, free and clear of any Liens, except Liens for Taxes not yet due and payable or that are being contested in good faith pursuant to appropriate proceedings and for which adequate reserves have been set forth on the Estimated Closing Statement in accordance with GAAP.

(d) **Section 3.12(d)** of the Company Disclosure Schedule sets forth a complete of real property leases that the Company is a party to and each such lease is valid and in full force and effect, and the Company has not received or provided any written or oral notice of any default or event that with notice of lapse of time, or both, would constitute a default by the Company, or any other party thereto under any of the real property leases identified in the Company Disclosure Schedule. The Company have timely and fully performed all covenants and obligations under the property leases identified in the Company Disclosure Schedule. The Company does not have any existing offsets, defenses, counterclaims, or credits against rentals under any provision of the real property leases identified in the Company Disclosure Schedule, other than any security deposit.

(e) Except as set forth in **Section 3.12(e)** of the Company Disclosure Schedule, the Company has not previously assigned, transferred, or conveyed all or any part of its right, title, or interest under any of the real property leases identified in the Company Disclosure Schedule to any other Person.

(f) The property and assets of the Company constitute all of the properties and assets (whether real, personal or mixed and whether tangible or intangible) necessary and sufficient to permit Parent and its Subsidiaries (including the Surviving Corporation) to conduct the business of the Company immediately after the Closing in the ordinary course of business consistent with past practice.

(g) To the Knowledge of Company, there is no action or proceeding pending or threatened relating to the real property identified in the Company Disclosure Schedule.

3.13 Intellectual Property.

(a) Definitions. For all purposes of this Agreement, the following terms shall have the following respective meanings:

"**Company Associate**" means [***].

"**Company Controlled Technology**" means all Technology that is a part of the Company Intellectual Property.

"**Company Intellectual Property**" means [***].

"**Company IT Systems**" means all computer systems, including software, hardware, firmware, middleware and platforms, interfaces, systems, networks, information technology equipment, facilities, website, infrastructure, workstations, switches, data communications lines and associated documentation used or held for use by or on behalf of the Company.

"**Company Owned IP**" shall mean all Intellectual Property Rights that are owned or purported to be owned by the Company or any of its Affiliates [***].

"**Company Registered Intellectual Property**" means all Registered Intellectual Property that is part of Company Intellectual Property.

"**Current Company Technology**" means, as of the date of this Agreement, [***].

"**DNA Writing Technology**" means [***].

"**Exploitation**" means to make, have made, import, export, use, sell or offer for sale, including to research, develop, register, modify, enhance, improve, manufacture, have manufactured, store, formulate, export, transport, distribute, promote, market or otherwise dispose of.

"**Intellectual Property**" means any and all Intellectual Property Rights and Technology.

"**Intellectual Property Rights**" means all intellectual property and industrial property rights and rights in confidential information throughout the world, including all U.S. and foreign (a) patents, patent applications, invention disclosures, and all related continuations, continuations-in-part, divisionals, reissues, re-examinations, substitutions, and extensions thereof ("**Patents**"); (b) trademarks, service marks, names, corporate names, trade names, domain names, URLs, social media addresses, logos, slogans, trade dress, design rights, and other similar designations of source or origin, together with the goodwill symbolized by any of the foregoing ("**Trademarks**"); (c) copyrights and copyrightable subject matter ("**Copyrights**"); (d) rights in computer programs (whether in source code, object code, or other form), algorithms, databases, compilations and data, technology supporting the foregoing, and all documentation, including user manuals and training materials, related to any of the foregoing; (e) trade secrets and all other confidential information, ideas, know-how, inventions, proprietary processes, protocols, specifications, techniques, data, results, plans, formulae, formulations, compositions, models, and methodologies ("**Trade Secrets**"); (f) rights in the foregoing and in other similar intangible assets; and (g) applications and registrations for the foregoing.

"**Registered Intellectual Property**" means all Patents (including related applications), Trademark applications and registrations (including domain names) and Copyright registrations and applications.

"**Technology**" means (a) works of authorship including computer programs, in source code and executable code form, and their architecture and documentation; (b) inventions (whether or not patentable), discoveries and improvements; (c) Trade Secrets; (d) databases, data compilations and collections, and customer and technical data and related information; (e) methods and processes; (f) devices, prototypes, designs and schematics; and (g) tangible items related to, constituting, disclosing or embodying any or all of the foregoing, including all versions thereof in any media or form (including electronic records and

computer files, laboratory notebooks, and any other written or recorded materials) and all technology from which such items were derived.

(b) **Section 3.13(b)** of the Company Disclosure Schedule sets forth a correct and complete list of all Company Registered Intellectual Property (which includes any and all Registered Intellectual Property licensed to the Company pursuant to inbound license agreements ("**Company Licensed IP**")), identifying for each: (i) the current assignee, (ii) the title, (iii) the jurisdiction of application or registration, (iv) the application or registration number, and (v) the filing date.

(c) The development of the Company Intellectual Property has not involved the misappropriation of any Trade Secrets from any third party. The existing claims in the patents and patent applications included in the Company Intellectual Property do not include a claimed invention derived from (conceived by and communicated from) any Person who has a right, title, or interest in such claimed invention and who has not assigned their entire right, title, and interest in and to such Intellectual Property to the Company or, in the case of Company Licensed IP, such Company Licensed IP to the licensor of such Company Licensed IP, as established pursuant to a derivation proceeding under 35 U.S.C. § 135.

(d) With respect to Company Owned IP, the Company is the sole and exclusive beneficial and record owner of each such item of Registered Intellectual Property that is also Company Owned IP ("**Company Owned Registered IP**") and, to the Company's Knowledge, the Company is the sole and exclusive beneficial owner of all other Company Owned IP. To the Company's Knowledge, all Company Owned Registered IP has been validly assigned to the Company or, in the case of Company Licensed IP, such Company Licensed IP has been validly assigned to the licensor of such Company Licensed IP.

(e) All Company Owned Registered IP is subsisting, valid and enforceable. There is no, and in the past three (3) years there has been no, pending or, to the Company's Knowledge, threatened Proceeding related to the scope, validity, registrability, patentability, enforceability, priority, inventorship or ownership of any Company Registered Intellectual Property or, to the Company's Knowledge, any other Company Intellectual Property. None of the Company Owned IP or, to the Company's Knowledge, any other Company Intellectual Property is or has been subject to any Order or Proceeding that adversely restricts the use, transfer, registration or licensing of any such Company Intellectual Property by the Company, or otherwise adversely affects (including, for the avoidance of doubt, any Order or Proceeding alleging or asserting that any Company Intellectual Property involved misappropriation or derivation of any Intellectual Property of another Person) the validity, scope, use, registrability, patentability, enforceability, priority, inventorship or ownership of any such Company Intellectual Property. All Company Owned Registered IP and, to the Company's Knowledge, all other Company Registered Intellectual Property has been filed, prosecuted and maintained (as applicable) in accordance with all applicable Laws, including all Laws regarding the duty to disclose and duties of candor.

(f) Except as set forth in **Section 3.13(f)** of the Company Disclosure Schedule, to the Company's Knowledge, the Company owns and possesses all right, title and interest in and to or has the right to use all Company Intellectual Property and all other Intellectual Property Rights used in their business as currently conducted and as currently contemplated to be conducted, free and clear of all Liens. Nothing in this **Section 3.13(f)** shall be deemed to be a representation that the Company Intellectual Property does not infringe or misappropriate the Intellectual Property Rights of a third party (a "**Non-Infringement Representation**"). The only Non-Infringement Representations provided by Company under this Agreement are included in **Section 3.13(c)**, the second sentence of **Section 3.13(e)** and **Section 3.13(h)**.

(g) No Company Associate owns or has any claim, right (whether or not currently exercisable) or interest to or in any Company Owned IP, and each Company Associate who participated in the creation, invention, development or modification of any Company Owned IP, or any other Intellectual Property Rights for, or by or on behalf of, the Company, has signed a valid, enforceable (except as such

enforceability may be limited by bankruptcy or insolvency laws or principles of equity) written agreement containing an assignment of all right, title and interest with respect to such Intellectual Property Rights to the Company and confidentiality provisions protecting such Company Intellectual Property, and, to the Company's Knowledge, there is no material breach under any such agreement (each such agreement, a "**Company Associate Agreement**"). To the Company's Knowledge, no Company Associate is in breach of any of its obligations to any other Person (including any current or former employer) as a result of its compliance with the Company Associate Agreement or any of its activities in connection with the Company. To the Company's Knowledge, no Company Associate has refused to comply with the Company Associate Agreement, or alleged or asserted that any provision of a Company Associate Agreement is inapplicable or unenforceable.

(h) There are no Proceedings, and no Proceeding has been initiated, asserted or, to the Company's Knowledge, threatened against the Company, relating to any actual, alleged or suspected infringement of any Intellectual Property owned or controlled by a third party.

(i) **Section 3.13(i)** of the Company Disclosure Schedule sets forth each Contract pursuant to which the Company receives or has received funding, facilities or personnel of any Governmental Entity or any university, college, research institute or other educational institution that is being or has been used to create, in whole or in part, Company Owned IP.

(j) The Company has taken reasonable steps to maintain the confidentiality of and otherwise protect and enforce their rights in all material Trade Secrets included in the Company Owned IP or otherwise disclosed in confidence to the Company, including requiring all Persons having access thereto to execute written non-disclosure agreements and storing such Trade Secrets in a manner that is reasonably expected to maintain the confidentiality of and otherwise protect such Trade Secrets. To the Company's Knowledge, there has not been any disclosure of or access to any such Trade Secret to any Person in a manner that has resulted or is likely to result in the loss of trade secret or other rights in and to such information.

(k) No Proceedings have been or are pending, or to the Company's Knowledge, threatened in writing, against the Company that allege or assert any actual, alleged or suspected infringement, misappropriation or other violation of any Intellectual Property Rights of another Person.

(l) No Proceeding has been initiated, asserted or threatened in writing against a Person by the Company that alleges or asserts any actual, alleged or suspected infringement of any Company Intellectual Property.

(m) The Company IT Systems have adequate capability and capacity to enable the Company to conduct its business, in all material respects, in the manner currently conducted, and there has been no failure of the Company IT Systems that has resulted in a material disruption or interruption in the operation of the Company's business for the last three (3) years. For the last three (3) years, to the Company's Knowledge, the Company IT Systems have not had any device or feature designed to disrupt, disable or otherwise impair the functioning thereof or any "back door," "time bomb," "Trojan horse," "worm," "drop dead device" or other code or routines that permit unauthorized access or the unauthorized disablement of the Company IT Systems, or erasure of any information or data, in each case that would have a material effect on the functioning of the Company IT Systems taken as a whole. **Section 3.13(m)** of the Company Disclosure Schedule describes the Company's current back-up, disaster recovery and business continuity plans and procedures.

(n) Except as set forth in **Section 3.13(n)** of the Company Disclosure Schedule, the consummation of the Merger will not result in the loss or impairment of or payment of any additional amounts with respect to, nor require the consent of any other Person in respect of, any Company Intellectual Property.

(o) [***].

(i) [***].

(ii) [***].

(iii) [***].

(iv) [***].

(v) [***].

(vi) [***].

[***].

3.14 Material Contracts.

(a) Except as set forth in **Section 3.14(a)** of the Company Disclosure Schedule (specifying the appropriate paragraph), the Company is not a party to, or has any obligations, rights or benefits under:

(i) any Contract that restricts or purports to restrict the ability of the Company or any of its controlled Affiliates (including, after the Closing Date, Parent, the Surviving Corporation or any of its Affiliates) to (A) conduct or compete with any line of business or operations or in any geographic area or during any period of time, (B) solicit or engage any customer, vendor or service provider, or (C) beneficially own any assets, properties or rights, anywhere at any time;

(ii) any employment, contractor or consulting Contract with any officer of the Company or any other employee, contractor or consultant, and any employment, contractor or consulting Contract with an employee consultant or contractor that provides for any severance or termination pay (in cash or otherwise) or retention or change in control compensation or benefits to any employee, consultant or contractor;

(iii) any Contract with any professional employer organization or similar entity or Person pursuant to which such entity or Person performs or provides the Company or any Subsidiary thereof with employment, employer and/or human resources-related services (or similar administrative services) in regard to employees and/or Contingent Workers of or working for the Company;

(iv) any Contract for Indebtedness (excluding purchase orders) and any Contract pursuant to which any assets or property of the Company are subject to a Lien;

(v) any lease of personal property or other Contract affecting the ownership of, leasing of, or other interest in, any personal property of the Company;

(vi) any surety or guarantee agreement or other similar undertaking with respect to contractual performance;

(vii) any Contract (including purchase orders) with a supplier or for the purchase of equipment, materials, products, supplies or services by the Company with obligations in excess of [***] in a calendar year;

(viii) any Contract (other than any Contract disclosed under clause (vii)) relating to capital expenditures and involving payments by the Company in excess of [***] in a calendar year;

(ix) any Contract relating to the disposition or acquisition of material assets or any interest in any business enterprise outside the ordinary course of business in excess of [***];

(x) any Contract (including purchase orders) with a customer in an amount or value in excess of [***] in aggregate in a calendar year;

(xi) any dealer, distribution, joint marketing, joint venture, partnership, strategic alliance, Affiliate or development agreement or outsourcing arrangement;

(xii) any Contract that contains a right of first refusal, first offer, first negotiation, take or pay, exclusivity, minimum purchase commitments, or "most favored nation" provision in favor of any Person;

(xiii) any Contract providing for the settlement of any suit, claim, action, litigation, arbitration, proceeding (including any civil, criminal, administrative, investigative or appellate proceeding), hearing, audit, examination or investigation commenced, brought, conducted or heard by or before, or otherwise involving, any Governmental Entity or arbitrator;

(xiv) any sales representative, original equipment manufacturer, manufacturing, value added, remarketer, reseller, or independent software vendor, or other Contract for use or distribution of the Company Products, Company Controlled Technology, Company Intellectual Property or services of the Company;

(xv) any Contracts under which a third party licenses or provides any Intellectual Property to the Company;

(xvi) any other Contract that requires payments by the Company in excess of [***] which is not cancelable by the Company without penalty within thirty (30) days.

(b) True and complete copies of each Contract disclosed in the Company Disclosure Schedule or required to be disclosed pursuant to this **Section 3.14(b)** as well as **Section 3.13(i)** of the Company Disclosure Schedule (each, a "**Material Contract**" and collectively, the "**Material Contracts**") have been made available to Parent.

(c) Each Material Contract to which the Company is a party or any of its properties or assets (whether tangible or intangible) is subject is a valid and binding agreement of the Company enforceable against the Company in accordance with its terms, and is in full force and effect with respect to the Company and, to the Knowledge of the Company, any other party thereto subject to (A) laws of general application relating to bankruptcy, insolvency and the relief of debtors, and (B) rules of law governing specific performance, injunctive relief and other equitable remedies. The Company is in material compliance with and has not materially breached, violated or defaulted under, or, to the Knowledge of the Company, received written notice that it has materially breached, violated or defaulted under, any of the terms or conditions of any Material Contract, nor to the Knowledge of the Company is any party obligated to the Company pursuant to any Material Contract subject to any material breach, violation or default thereunder, nor does the Company have Knowledge of any presently existing facts or circumstances that, with the lapse of time, giving of notice, or both would constitute such a material breach, violation or default by the Company or its Subsidiary or any such other party.

(d) As of the date hereof, the Company has performed all material obligations required to have been performed by the Company prior to the Effective Time pursuant to each Material Contract.

3.15 Interested Party Transactions.

(a) Except as set forth on **Section 3.15** of the Company Disclosure Schedule, no (i) Company Securityholder, officer, manager, partner or director of the Company or any Subsidiary of the Company, (ii) Affiliate or immediate family member of any such Person listed in (i), or (iii) Person that any Person listed in (i) or (ii) has or has had an equity or other ownership or financial interest (each, an "**Interested Party**"), has or has had in the prior three (3) years, directly or indirectly, (A) any interest in property (including real and personal property) or assets (including tangible and intangible assets) used or held for use in the business of the Company, (B) any Person that furnished, licensed or sold, or furnishes, licenses or sells, services, products, or technology that the Company furnishes or sells, or proposes to furnish or sell, (C) any interest in any Person that purchases from or sells, licenses or furnishes to the

Company, any services, products or technology, (D) any interest in Company SAFEs, or (E) any interest in, or is a party to, any Contract or has any right or claim against the Company or any of their respective assets.

(b) All transactions pursuant to which any Interested Party has purchased any material services, products, or technology from, or sold or furnished any services, products or technology to, the Company that were entered into have been on an arms' length basis on terms no less favorable to the Company than would be available from an unaffiliated party.

3.16 Permits. The Company possesses and has possessed all Permits required for the operation of its business, and is, and in the last [***] has been, in compliance in all material respects with the terms and conditions of all such Permits. All such Permits are listed on **Section 3.16** of the Company Disclosure Schedule. All such Permits are valid and in full force and effect and such Permits constitute all Permits required to permit the Company to operate or conduct their respective businesses or hold any interest in their respective properties, rights or assets.

3.17 Litigation. There is, and in the last [***] there has been, no material action, suit, claim, litigation, investigation, arbitration or proceeding of any nature pending, or to the Knowledge of the Company, threatened in writing, against the Company, their respective properties or assets (tangible or intangible) or any of the Company's employees, officers or directors (in their capacities as such).

3.18 Minute Books. The minutes of the Company made available to Parent contain complete and accurate records of all material actions taken, and summaries of all meetings held, by the equityholders and the Board of Directors (or similar governing body) of the Company (and any committees thereof) since the time of incorporation of the Company. At the Closing, the minute books of the Company will be in the possession of the Company.

3.19 Environmental Matters. Except as set forth on **Section 3.19** of the Company Disclosure Schedule:

(a) (i) The Company is, and for the last [***] has been, in compliance in all material respects with all applicable Environmental Laws, and (ii) the Company holds and is, and for the last three (3) years has been, in compliance in all material respects with all permits, certificates, licenses, approvals, registrations and authorizations required under all Environmental Laws in connection with the business of the Company ("**Environmental Permits**"). All Environmental Permits are in full force and effect.

(b) To the Knowledge of the Company, neither the Company nor any Subsidiary of the Company may be held responsible, has transported or disposed of, or allowed or arranged for any third party to transport or dispose of, any Hazardous Material to or at any location that is listed or proposed for listing on the National Priorities List promulgated pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, the Comprehensive Environmental Response, Compensation, and Liability Information System, or any equivalent list of sites for cleanup under any federal, state or local program.

(c) To the Knowledge of the Company, the Company or any Person for whose conduct the Company may be held responsible, has not Released any Hazardous Material on, in, from, under or at any property now or formerly owned, operated or leased by the Company, except as authorized by, and in compliance with, validly issued Environmental Permits. To the Knowledge of the Company, no Hazardous Material is present or has come to be located in the Environment at any property now or formerly owned, operated or leased by the Company in an amount, manner, condition or concentration that requires any reporting, notification, investigation, remediation, abatement or other response action by the Company pursuant to any Environmental Laws.

(d) To the Knowledge of the Company, there are no active or abandoned underground storage tanks present at, on, or under the real property owned, operated or leased by the Company.

(e) The Company has not: (i) received written notice under the citizen suit provisions of any Environmental Law; (ii) received any written notice, demand, complaint or claim under any Environmental Law; or (iii) been subject to or, to the Knowledge of the Company, threatened (orally or in writing) with any governmental or citizen enforcement action with respect to any Environmental Law.

(f) The Company has provided or made available to Parent all documents, records and information possessed by the Company concerning any environmental or health and safety matter relevant to the business of the Company or to any property now or formerly owned, operated or leased by the Company at any time since [***], including environmental audits, environmental risk assessments, site assessments, documentation regarding waste disposal, Environmental Permits, and reports or correspondence submitted to or issued by any Governmental Entity.

3.20 Brokers' and Finders' Fees. The Company has not incurred, or will incur, directly or indirectly, any Liability for brokerage or finders' fees or agents' commissions, fees related to investment banking or similar advisory services or any similar charges in connection with this Agreement or any transaction contemplated hereby, nor will Parent, the Company or the Surviving Corporation incur, directly or indirectly, any such Liability based on arrangements made by or on behalf of the Company.

3.21 Employee Benefit Plans.

(a) **Section 3.21(a)** of the Company Disclosure Schedule sets forth a true, complete and correct list of each material Company Employee Plan (other than any offer letters that may be terminated without any payment or Liability).

(b) True, complete and correct copies of the following documents, with respect to each material Company Employee Plan, where applicable, have previously been made available to Parent: (i) all documents embodying or governing such Company Employee Plan (or for unwritten Company Employee Plans a written description of the material terms of such Company Employee Plan) and any funding medium for the Company Employee Plan; (ii) the most recent IRS determination or opinion letter; (iii) the most recently filed Form 5500; (iv) the most recent actuarial valuation report; (v) the most recent summary plan description (or other descriptions provided to employees) and all modifications thereto; (vi) the last three years of non-discrimination testing results; and (vii) all non-routine correspondence to and from any Governmental Entity.

(c) Each Company Employee Plan that is intended to qualify under Section 401(a) of the Code is so qualified and has received a favorable determination or approval letter from the IRS with respect to such qualification, or may rely on an opinion letter issued by the IRS with respect to a prototype plan adopted in accordance with the requirements for such reliance, or has time remaining for application to the IRS for a determination of the qualified status of such Company Employee Plan for any period for which such Company Employee Plan would not otherwise be covered by an IRS determination and, to the knowledge of the Company, no event or omission has occurred that would cause any Company Employee Plan to lose such qualification or require corrective action to the IRS or Employee Plan Compliance Resolution System to maintain such qualification.

(d) (i) Each Company Employee Plan is, and has been established, operated, and administered in all material respects in compliance with applicable Laws and with its terms, including without limitation ERISA, the Code, and the Affordable Care Act. (ii) No claim, litigation or governmental or administrative proceeding, audit, investigation or other proceeding (other than those relating to routine claims for benefits) is pending or, to the Knowledge of the Company, threatened with respect to any Company Employee Plan or any fiduciary or service provider thereof, and, to the Knowledge of the Company, there is no reasonable basis for any such claim, litigation, audit, investigation or proceeding. (iii) All payments and/or contributions required to have been made with respect to all Company Employee Plans either have been timely made or have been accrued in accordance with the terms of the applicable Company Employee Plan and applicable Law.

(e) No Company Employee Plan is and neither the Company nor any ERISA Affiliate has ever maintained, contributed to, or been required to contribute to or had any Liability (whether contingent or otherwise) or obligation (including on account of any ERISA Affiliate) with respect to (i) any employee benefit plan that is or was subject to Title IV of ERISA, Section 412 of the Code, Section 302 of ERISA, (ii) a Multiemployer Plan, (iii) any funded welfare benefit plan within the meaning of Section 419 of the Code, (iv) any "multiple employer plan" (within the meaning of Section 210 of ERISA or Section 413(c) of the Code), or (v) any "multiple employer welfare arrangement" (as such term is defined in Section 3(40) of ERISA), and neither the Company nor any ERISA Affiliate has ever incurred any liability under Title IV of ERISA that has not been paid in full.

(f) No Company Employee Plans provide health care or any other non-pension benefits to any employees or other service providers after their employment is terminated (other than as required by Part 6 of Subtitle B of Title I of ERISA or similar state law), and the Company has no obligation to provide such post-termination benefits.

(g) The Company has not announced its intention to modify or terminate any material Company Employee Plan or adopt any arrangement or program which, once established, would come within the definition of a Company Employee Plan. No Company Employee Plan provides health or long-term disability benefits that are not fully insured through an insurance contract.

(h) No Company Employee Plan is subject to the laws of any jurisdiction outside the United States.

3.22 Employment.

(a) The Company (i) is, and at all times during the past four (4) years has been, in compliance, in all material respects, with all applicable Laws and collective bargaining agreements and arrangements, in each case respecting labor and employment matters, including Laws relating to employment practices, work authorization and immigration (including the Immigration Reform and Control Act of 1986 and the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (IIRIRA)), terms and conditions of employment, fair employment practices, discrimination, harassment, retaliation, whistleblowing, disability, fair labor standards, workers compensation, wrongful discharge, immigration (including the requirements of the Immigration Reform Control Act of 1986), occupational safety and health, family and medical leave, wages and hours, (including with respect to overtime, minimum wage, California wage and hour laws, and meal and rest breaks), the classification of Contingent Workers, and employee terminations, and in each case, with respect to any current or former employee, consultant, independent contractor, manager, partner or director of the Company or any ERISA Affiliate, and (ii) has withheld and reported all amounts required by applicable Laws or by agreement to be withheld and reported with respect to wages, salaries, bonuses, commissions, fees and any other compensation, remuneration and payments to any current or former employee, consultant, independent contractor, manager, partner or director of the Company except as would not reasonably be expected to result in a material Liability to the Company. There are no, and at no time during the past four (4) years have there been any, actions, suits, litigations, governmental audits, governmental investigations, internal investigations arbitrations, claims or administrative matters or proceedings pending, or to the Knowledge of the Company, threatened in writing, against the Company relating to any employment or labor matter. Except as would not reasonably be expected to result in a material Liability to the Company, to the extent that the Company has engaged or engages the services of any Person as an independent contractor, consultant, temporary or leased worker, or other servant or agent who is or has been classified and treated as other than an "employee" and/or compensates or has compensated such Person other than through wages paid through payroll and reported on a form W-2 (each such Person, a "**Contingent Worker**"), the Company has properly classified and treated all such Persons in accordance with applicable Laws in all material respects, and for purposes of all employee benefit plans and perquisites.

(b) None of the employment policies or practices of the Company is currently being audited, or, to the Knowledge of the Company, investigated or subject to imminent audit by any Governmental Entity. The Company is not, nor within the last four (4) years has been, subject to any material order, decree, injunction, fine, penalty or judgment by any Governmental Entity or private settlement contract in respect of any labor or employment matters.

(c) **Section 3.22(c)** of the Company Disclosure Schedule contains a complete and accurate list of the employees of the Company as of immediately prior to Closing and shows with respect to each such employee (i) the employee's name, position held, and principal place of employment, (ii) base salary, hourly wage rate, and/or commission rate(s), as applicable, including each employee's designation as either exempt or non-exempt from the overtime requirements of the Fair Labor Standards Act and/or exempt or non-exempt for state wage and hour law purposes, bonus eligibility for the current year, (iii) the date of hire, and (iv) leave status. With respect to each Contingent Worker as of immediately prior to Closing, **Section 3.22(c)** of the Company Disclosure Schedule sets forth each such Contingent Worker's role in the business of the Company, location, and fee or compensation arrangements.

(d) Except as set forth on **Section 3.22(d)** of the Company Disclosure Schedule, all employees of the Company are employed on an at-will basis.

(e) The Company is not a government contractor or subcontractor for purposes of any Laws with respect to the terms and conditions of employment, including without limitation, the Service Contracts Act or prevailing wage laws.

3.23 Insurance. **Section 3.23** of the Company Disclosure Schedule lists all insurance policies and fidelity bonds covering the assets, business, equipment, properties, operations, employees, officers and directors of the Company, including the type of coverage, the carrier, the amount of coverage, the term and the annual premiums of such policies. There are and have been no claims since the Company's inception for which an insurance carrier has denied. All premiums due and payable under all such policies and bonds have been paid (or if installment payments are due, will be paid if incurred prior to the Closing Date), and the Company is otherwise in material compliance with the terms of such policies and bonds (or other policies and bonds providing substantially similar insurance coverage).

3.24 Regulatory. Since inception of the Company, the Company has been and is in compliance in all material respects with applicable Health Care Laws. The Company has filed with the applicable Governmental Entities (including the FDA or any other Governmental Entity performing functions similar to those performed by the FDA) all required filings, representations, declarations, listings, registrations, reports or submissions. All such filings, representations, declarations, listings, registrations, reports or submissions were in compliance in all material respects with applicable Health Care Laws when filed, and no material deficiency has been asserted by any applicable Governmental Entity with respect to any such filings, representations, declarations, listing, registrations, reports or submissions. The Company has not received any material written, or to the Company's Knowledge, oral, notice or other material correspondence from any Governmental Entity, including the FDA or any other Governmental Entity, with respect to any Company Product. There is no pending or threatened action, suit, claim, order, injunction, investigation or proceeding of any nature pending or threatened, or enforcement of any sort arising under any Health Care Law, the FDA or any other Governmental Entity regarding the Company. All Company Products are being and have been developed, manufactured, distributed, used, processed, packaged, labeled, stored and tested in material compliance with applicable Health Care Law. The Company has not made an untrue statement of a material fact or fraudulent statement to the FDA or any Governmental Entity responsible for enforcement or oversight with respect to Health Care Laws, or failed to disclose a material fact required to be disclosed to the FDA or other such Governmental Entity. All applications, notifications, submissions, information, claims, reports and statistics and other data that have been utilized, or prepared with the intention to be utilized, as the basis for or submitted in connection with any regulatory or marketing approvals or Permits from the FDA or any other Governmental Entity relating to the Company Products

were true, correct and complete in all material respects as of the date of preparation and submission, as applicable, and any necessary or required update, change, correction or modification to such applications, submissions, information and data have been submitted to the FDA or other Governmental Entity. The Company has not received any Form FDA 483, warning letter, untitled letter, or other similar written notice or communication from the FDA or any other Governmental Entity alleging that the Company has violated or failed to comply with applicable Health Care Laws of the FDA or other Governmental Entity, including with respect to activities involving any Company Product. None of the Company, any Person(s) engaged by the Company who have performed work related to the Company Products, nor any equity holder with five (5) percent or greater interest, has been convicted of any crime or is or has been debarred, excluded or disqualified under applicable Health Care Laws, including 21 U.S.C. Section 335a, or, to the Company's Knowledge has engaged in any conduct that has resulted, or would reasonably be expected to result, in such criminal conviction or debarment, exclusion or disqualification. No action that would reasonably be expected to result in any such criminal conviction, debarment, exclusion or disqualification are pending or threatened against the Company, any Person(s) engaged by the Company who have performed work related to the Company Products, or such equity holders, and, to the Company's Knowledge and the Company, there is no fact that could reasonably give rise to such an action.

3.25 Cybersecurity; Data Protection. The Company's and its subsidiaries' information technology assets and equipment, computers, systems, networks, hardware, software, websites, applications, and databases (collectively, "**IT Systems**") are adequate for, and operate and perform in all material respects as required in connection with the operation of the business of the Company as currently conducted, and to the Company's Knowledge, are free and clear of all material bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants. The Company and its subsidiaries have implemented and maintained commercially reasonable physical, technical and administrative controls, policies, procedures, and safeguards to maintain and protect their material confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and data, including "**Personal Data**," used in connection with their businesses. "Personal Data" means (i) a natural person's name, street address, telephone number, e-mail address, photograph, social security number or tax identification number, driver's license number, passport number, credit card number, bank information, or customer or account number; (ii) "personal data" as defined by the European Union General Data Protection Regulation (EU 2016/679) ("**GDPR**"); (iii) any information which would qualify as "protected health information" under the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act (collectively, "**HIPAA**"); and (iv) any other piece of information that allows the identification of such natural person, or his or her family, or permits the collection or analysis of any data related to an identified person's health or sexual orientation. To the Company's Knowledge, there have been no breaches, violations, outages or unauthorized uses of or accesses to Personal Data, except for those that have been remedied without material cost or liability or the duty to notify any other person, nor any incidents under internal review or investigations relating to the same. The Company and its subsidiaries are and have been in material compliance with all applicable laws, directives or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Personal Data and to the protection of such IT Systems and Personal Data from unauthorized use, access, misappropriation or modification. The Company and its subsidiaries have taken all necessary actions to materially comply with the GDPR and all other applicable laws and regulations with respect to Personal Data, and for which any non-compliance with same would be reasonably likely to create a material liability.

3.26 Compliance with Laws. Except as set forth on **Section 3.26** of the Company Disclosure Schedule, the Company is conducting, and has conducted in the last [***], its business in compliance in all material respects with all Laws applicable to the Company. None of the Company is, or has been, (a) in violation of any Laws applicable to the Company in any material respect or (b) received written notice of violation of any Laws applicable to the Company that remains uncured.

3.27 Export Controls and Governmental Sanctions. Except as set forth on **Section 3.27** of the Company Disclosure Schedule, the Company, its predecessor, and its current and former Subsidiaries have at all times been in compliance with all applicable trade laws, including import and export control laws, trade embargoes, and anti-boycott laws, and, except as specifically authorized by a Permit, license exception, or other permit or applicable authorization of a Governmental Entity, or except as set forth as an exception on **Section 3.27** of the Company Disclosure Schedule, have not: (a) exported, reexported, transferred, or brokered the sale of any goods, services, technology, or technical data to any destination to which, or individual for whom, a license or other authorization is required under the U.S. Export Administration Regulations (the "**EAR**," 15 C.F.R. § 730 et seq.), the International Traffic in Arms Regulations (the "**ITAR**," 22 C.F.R. § 120 et seq.), or the U.S. economic sanctions administered by the Office of Foreign Assets Control ("**OFAC**," 31 C.F.R. Part 500 et seq.); (b) exported, reexported, or transferred any goods, services, technology, or technical data to, on behalf of, or for the benefit of any person or entity (i) designated as a Specially Designated National or appearing on OFAC's Consolidated Sanctions List, or (ii) on the Denied Persons, Entity, or Unverified Lists of the Bureau of Industry and Security, or (iii) on the Debarred List of the Directorate of Defense Trade Controls (if applicable); (c) exported any goods, services, technology, or technical data that have been or will be used for any purposes associated with nuclear activities, missiles, chemical or biological weapons, or terrorist activities, or that have been or will be used, transshipped or diverted contrary to applicable U.S. trade controls; (d) exported, reexported, transferred, or imported any goods, services, technology, or technical data to or from Cuba, Crimea, Iran, Libya, North Korea, Syria, or Sudan during a time at which such country/region and/or its government was subject to U.S. trade embargoes under OFAC regulations, the EAR, or any other applicable statute or Executive Order; (e) manufactured any defense article as defined in the ITAR, including within the United States and without regard to whether such defense article was subsequently exported, without being registered and in good standing with the Directorate of Defense Trade Controls, U.S. Department of State; (f) imported any goods except in full compliance with the import and customs laws of the United States, including but not limited to Title 19 of the United States Code, Title 19 of the Code of Federal Regulations, and all other regulations administered or enforced by the Bureau of Customs and Border Protection; or (g) violated the antiboycott prohibitions, or failed to comply with the reporting requirements, of the EAR (15 C.F.R. § 760) and the Tax Reform Act of 1976 (26 U.S.C. § 999). The Company has obtained all required Permits for each item made or exported by the Company, and has obtained or identified the correct Export Control Classification Number (under the Commerce Control List of the EAR) or United States Munitions List Category (of the ITAR) for each item. The Company has in place adequate controls to ensure compliance with any applicable laws pertaining the export and import of goods, services, and technology, including without limitation the EAR, the ITAR, the U.S. economic sanctions administered by OFAC, and the import and customs laws. Neither the Company, nor its predecessors, has undergone or is undergoing, any audit, review, inspection, investigation, survey or examination by a Governmental Entity relating to export, import, or other trade-related activity. To the Knowledge of the Company, there are no threatened claims, nor presently existing facts or circumstances that would constitute a reasonable basis for any future claims, with respect to exports, imports, or other trade-related activity by the Company nor its predecessors. No authorization from any Governmental Entity for the transfer to the Surviving Corporation of any Permits material to the Company's or any of its Subsidiary's business is required, or such authorization can be obtained expeditiously without material cost.

3.28 Foreign Corrupt Practices and Anti-Bribery. Neither the Company nor any of its respective directors, managers, partners, officers or employees nor, to the Knowledge of the Company, any third party representative of the Company with respect to any matter relating to the Company, (a) has used or is using any corporate funds for any illegal contributions, gifts, entertainment or other unlawful expenses relating to political activity, (b) has used or is using any corporate funds for any direct or indirect unlawful payments to any foreign or domestic governmental officials or employees or any other Person, (c) has violated or is violating any provision of the Foreign Corrupt Practices Act of 1977, as amended ("**FCPA**"), 15 U.S.C. §§ 78dd 1 *et seq.* or its equivalent in any jurisdiction where the Company conducts business, if the Company

or such Subsidiary were subject thereto, (d) has established or maintained, or is maintaining, any unlawful fund of corporate monies or other properties or (e) has made any bribe, unlawful rebate, payoff, influence payment, kickback or other unlawful payment of any nature. To the Knowledge of the Company, the Company has in place adequate controls and systems to ensure compliance with applicable laws pertaining to anticorruption, including the FCPA, in each of the jurisdictions in which the Company currently does business or has done business in the last five (5) years. To the Knowledge of the Company, no event, fact or circumstance has occurred in the five (5) years prior to the date hereof or exists that is reasonably likely to result in a finding of noncompliance with any applicable law relating to anticorruption. Neither the Company nor any of their respective directors, managers, partners, officers or employees nor, to the Knowledge of the Company, any third party representative of the Company with respect to any matter relating to the Company, has taken or failed to take any action which would cause the Company or any such Subsidiary to be in violation of the FCPA, or any rules or regulations thereunder if such law, rules and regulations were applicable thereto. Neither the Company nor any of their respective directors, managers, partners, officers or employees nor, to the Knowledge of the Company, any third party representative of the Company with respect to any matter relating to the Company, has offered, paid, promised to pay, or authorized, or will offer, pay, promise to pay, or authorize, directly or indirectly, the giving of money or anything of value to any Official, or to any other Person while knowing or being aware of a high probability that all or a portion of such money or thing of value will be offered, given or promised, directly or indirectly, to any Official, for the purpose of: (i) influencing any act or decision of such Official in his, her or its official capacity, including a decision to fail to perform his, her or its official duties or functions; or (ii) inducing such Official to use his, her or its influence with any Governmental Entity to affect or influence any act or decision of such Governmental Entity, or to obtain an improper advantage in order to assist the Company or any such Subsidiary, or any third-party in obtaining or retaining business for or with, or directing business to, the Company. For purposes of this Agreement, an "**Official**" shall include any appointed or elected official, any government employee, any political party, party official, or candidate for political office, or any officer, manager, director or employee of any Governmental Entity.

3.29 Bank Accounts. **Section 3.29** of the Company Disclosure Schedule lists the names, account numbers, authorized signatories and locations of all banks and other financial institutions at which the Company has an account or safe deposit box and the name of each Person authorized to draft on or have access to any such account or safe deposit box.

3.30 No Other Representation and Warranties; Non-Reliance; Due Diligence. [***].

ARTICLE 4

REPRESENTATIONS AND WARRANTIES OF PARENT AND MERGER SUB

Parent hereby represents and warrants to the Company as of the date hereof and as of the Closing, except as disclosed in the Parent SEC Reports (including exhibits and other information incorporated by reference therein) filed by Parent and publicly available prior to the date of this Agreement ("Filed Parent SEC Reports") (but excluding any forward looking disclosures or "risk factors" disclosure, except in each case for statements of historical fact regarding Parent contained therein):

4.1 Organization. Each of Parent and Merger Sub is a corporation or limited liability company duly organized, validly existing and in good standing under the laws of the state of incorporation or formation and has the requisite corporate or company power and authority to own, lease and operate its assets and properties and to carry on its business as it is now being conducted. Each of Parent and Merger Sub is duly qualified or licensed as a foreign corporation or limited liability company to do business, and is in good standing, in each jurisdiction where the character of the properties or assets owned, leased or operated by it or the nature of its business makes such qualification or licensing necessary, except where the failure to be so qualified or licensed and in good standing

would not, individually or in the aggregate, be reasonably expected to have a Parent Material Adverse Effect. The copies of the Certificate of Incorporation and By-Laws of Parent most recently filed with the SEC are true, correct, and complete copies of such documents as in effect as of the date of this Agreement. Parent has delivered or made available to the Company a true and correct copy of the certificate of incorporation and bylaws of Merger Sub, as amended to the date of this Agreement. Such certificates of incorporation and bylaws and such certificate of formation and operating agreement are in full force and effect. Neither Parent nor Merger Sub is in violation of any of the provisions of its certificate of incorporation, certificate of formation, bylaws, operating agreement or equivalent organizational documents.

4.2 Authority and Enforceability. Each of Parent and Merger Sub has all requisite corporate or limited liability company power and authority to enter into this Agreement and any Related Agreements to which it is a party, to perform its obligations hereunder and thereunder and to consummate the transactions contemplated hereby and thereby. The execution and delivery by each of Parent and Merger Sub of this Agreement and any Related Agreements to which it is a party and the consummation of the transactions contemplated hereby and thereby have been duly authorized by all necessary corporate or limited liability company action on the part of each of Parent and Merger Sub, including in the case of Merger Sub, the requisite approval of its stockholders, and no other corporate on the part of Parent or Merger Sub are necessary to authorize this Agreement or any Related Agreement to which it is a party or to consummate the transactions contemplated hereby and thereby (other than, with respect to the Merger and the filing of the Certificate of Merger with the Secretary of State of the State of Delaware). This Agreement has been duly and validly executed and delivered by Parent and Merger Sub and, assuming due authorization, execution and delivery by the Company, constitutes a legal, valid and binding obligation of each of Parent and Merger Sub, enforceable against each of Parent and Merger Sub in accordance with its terms, subject to the effect of any applicable bankruptcy, insolvency (including all Laws relating to fraudulent transfers), reorganization, moratorium or similar Laws affecting creditors' rights generally and subject to the effect of general principles of equity (regardless of whether considered in a proceeding at law or in equity). Each Related Agreement to which any of Parent or Merger Sub is party has been duly and validly executed and delivered by such first Person and, assuming due authorization, execution and delivery by the Company, constitutes a legal, valid and binding obligation of such first Person, enforceable against such first Person in accordance with its terms, subject to the effect of any applicable bankruptcy, insolvency (including all Laws relating to fraudulent transfers), reorganization, moratorium or similar Laws affecting creditors' rights generally and subject to the effect of general principles of equity (regardless of whether considered in a proceeding at law or in equity). No vote of the stockholders of Parent is required by Law, Parent's certificate of incorporation or bylaws or otherwise in order for Parent to execute and deliver this Agreement, and to perform its obligations hereunder and to consummate the transactions contemplated hereby. The adoption of this Agreement by Parent, as sole stockholder of Merger Sub, is the only vote of stockholders required in order for Merger Sub to consummate the Merger, which adoption has been received as of the date hereof.

4.3 No Conflict. The execution and delivery by Parent and Merger Sub of this Agreement and any Related Agreement to which Parent or any of Merger Sub is a party, and the consummation of the Merger or any other transactions contemplated hereby and thereby, will not result in a Conflict under (a) any provision of any organizational documents of Parent or Merger Sub, (b) any Contract to which Parent or Merger Sub is a party or by which any of Parent's or Merger Sub's respective properties or assets may be bound, or (c) any judgment, order, decree, statute, Law, ordinance, rule or regulation applicable to Parent or Merger Sub or any of their respective properties or assets (whether tangible or intangible), except, in the case of clauses (b) and (c), where such Conflict, individually or in the aggregate, for any such conflicts, violations, breaches, defaults or other occurrences which would not, individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect.

4.4 Consents. No consent, notice, waiver, approval, order or authorization of, or registration, declaration or filing with any Governmental Entity is required by, or with respect to, Parent or any Merger Sub in connection with the execution and delivery of this Agreement and any Related Agreement to which Parent or any Merger Sub is a party or the consummation of the Merger and the other transactions contemplated hereby and thereby, except for (a) the filing of a Certificate of Merger as provided in **Section 2.2**, (b) such consents, notices, waivers, approvals, orders, authorizations, registrations, declarations and filings as may be required under applicable securities laws, and (c) those required for compliance with any applicable requirements of the Securities Act, the Exchange Act and any other U.S. state or federal securities laws and the rules of Nasdaq in connection with the issuance and listing on Nasdaq of the shares of Parent Common Stock issuable in the transactions contemplated by this Agreement.

4.5 Parent Capital Structure.

(a) As of the date hereof, the authorized capital stock of Parent is 120,000,000 shares of Parent Common Stock and 5,000,000 shares of preferred stock, none of which are outstanding. All of the outstanding shares of capital stock of Parent were duly authorized and validly issued and are fully paid and non-assessable. Except as set forth in this **Section 4.5**, there are no options, calls, warrants, convertible debt or other convertible or exchangeable instruments or other rights, agreements, arrangements or commitments of any character made or issued by Merger Sub relating to the issued or unissued capital stock of Merger Sub or obligating Merger Sub to issue, deliver or sell any shares of capital stock, voting securities or other equity interests or securities convertible into or exchangeable or exercisable for capital stock, voting securities or other equity interests of Merger Sub.

(b) The authorized capital stock of Merger Sub consists of 1,000 shares of common stock, par value $0.01 per share, all of which are duly authorized, validly issued, fully paid and non-assessable and free of any preemptive rights in respect thereof and all of which are owned by Parent. Each outstanding share of capital stock of Merger Sub is owned by Parent free and clear of all Liens, except where failure to own such shares free and clear would not, individually or in the aggregate, materially adversely affect Parent's ability to consummate the Merger.

4.6 Valid Issuance of Parent Common Stock. The shares of Parent Common Stock to be issued pursuant to this Agreement will, when issued, be duly authorized, validly issued, fully paid and non-assessable and issued in compliance with federal and state securities laws, and be listed on Nasdaq. All of the outstanding shares of capital stock of Parent are, and all shares of capital stock of Parent which may be issued as contemplated or permitted by this Agreement, including the [***] Milestone Shares, will be, when issued, duly authorized, validly issued, fully paid, and non-assessable, and not subject to any pre-emptive rights. No Subsidiary of Parent owns any shares of Parent Common Stock.

4.7 Parent SEC Reports.

(a) Since January 1, 2020, Parent has timely filed with the SEC all reports, schedules, forms, statements or other documents required to be filed or furnished by it under the Exchange Act and the rules of Nasdaq (collectively, the "**Parent SEC Reports**"). Such reports, including any financial statements or schedules included therein, (i) as of their respective dates or, if amended, as of the date of the last such amendment, did not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading, and (ii) when filed, complied in all material respects with the applicable requirements of the Exchange Act, Sarbanes-Oxley Act, and the applicable rules and regulations of the SEC thereunder. True, correct, and complete copies of all of the Parent SEC Reports are publicly available on EDGAR. To the Knowledge of Parent, none of the Parent SEC Reports are the subject of ongoing SEC review or outstanding SEC investigation and there are no outstanding or unresolved comments received from the SEC with respect to any of the Parent SEC Reports.

(b) Each of the consolidated financial statements (including, in each case, any notes and schedules thereto) contained in or incorporated by reference into the Parent SEC Reports: (i) complied as to form in all material respects with the published rules and regulations of the SEC with respect thereto as of their respective dates; (ii) was prepared in accordance with GAAP applied on a consistent basis throughout the periods involved (except as may be indicated in the notes thereto and, in the case of unaudited interim financial statements, as may be permitted by the SEC for Quarterly Reports on Form 10-Q); and (iii) fairly presented in all material respects the consolidated financial position and the results of operations, changes in stockholders' equity, and cash flows of Parent and its consolidated Subsidiaries as of the respective dates of and for the periods referred to in such financial statements, subject, in the case of unaudited interim financial statements, to normal and year-end audit adjustments as permitted by the applicable rules and regulations of the SEC (but only if the effect of such adjustments would not, individually or in the aggregate, be material).

(c) The audited consolidated balance sheet of Parent dated as of December 31, 2020 contained in the Parent SEC Reports filed prior to the date hereof is hereinafter referred to as the "**Parent Balance Sheet**." Neither Parent nor any of its Subsidiaries has any Liabilities other than Liabilities that: (i) are reflected or reserved against in the Parent Balance Sheet (including in the notes thereto); (ii) were incurred since the date of the Parent Balance Sheet in the ordinary course of business consistent with past practice; (iii) are incurred in connection with the transactions contemplated by this Agreement; or (iv) would not, individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect.

(d) Parent maintains disclosure controls and procedures required by Rule 13a-15 or Rule 15d-15 under the Exchange Act and such controls and procedures are effective to ensure that all material information concerning Parent and its Subsidiaries is made known on a timely basis to the individuals responsible for the preparation of Parent's SEC filings and other public disclosure documents.

4.8 Securities Law Matters.

(a) The Parent Common Stock is registered pursuant to Section 12(b) of the Exchange Act, and no securities commission or similar regulatory authority has issued any order preventing or suspending trading of any securities of Parent.

(b) Parent is in compliance in all material respects with all of the applicable listing and corporate governance rules of Nasdaq for the continued listing of the Parent Common Stock thereon.

(c) Trading in shares of the Parent Common Stock on Nasdaq is not currently halted or suspended. To the Knowledge of Parent, no delisting, suspension oftrading or cease trading order with respect to any securities of Parent is pending or threatened. To the Knowledge of Parent, as of the date of this Agreement, no inquiry, review or investigation of Parent by any securities commission or similar regulatory authority under applicable U.S. Securities Laws or Nasdaq is in effect or ongoing.

4.9 Absence of Certain Changes or Events. Since the date of the Parent Balance Sheet, except in connection with the execution and delivery of this Agreement and the consummation of the transactions contemplated hereby, there has not been or occurred any Parent Material Adverse Effect or any event, condition, change, or effect that would reasonably be expected to have, individually or in the aggregate, a Parent Material Adverse Effect.

4.10 Compliance. Since [***], Parent and its Subsidiaries have operated and conducted their businesses in compliance with all Laws of any Governmental Entity applicable to their respective businesses or operations, except where such non-compliance would not, individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect.

4.11 Permits. Parent and its Subsidiaries hold, to the extent necessary to operate their respective businesses as such businesses are being operated as of the date hereof, all Permits except for any Permits

for which the failure to obtain or hold would not reasonably be expected to have, individually or in the aggregate, a Parent Material Adverse Effect.

4.12 Litigation. There is no action, suit, claim, litigation, investigation, arbitration or proceeding of any nature pending or, to the knowledge of Parent, threatened in writing (i) against or involving Parent or Merger Sub, any of their respective Subsidiaries that, individually or in the aggregate, has had or would reasonably be expected to have a Parent Material Adverse Effect, or (ii) that seeks to restrain or enjoin the consummation of the transactions contemplated hereby or any Related Agreement or that would reasonably be expected to affect the ability of Parent or Merger Sub to perform its obligations under this Agreement or any Related Agreement to which it is a party or prevent or materially impede or delay the consummation of the transactions contemplated hereby or thereby. There is no Order of any Governmental Entity or arbitrator outstanding against, or, to the knowledge of Parent, investigation by any Governmental Entity involving, Parent, any of its Subsidiaries that would reasonably be expected to affect the ability of Parent or Merger Sub to perform its obligations under this Agreement or any Related Agreement to which it is a party or prevent or materially impede or delay the consummation of the transactions contemplated hereby or thereby.

4.13 No Prior Merger Sub Operations. Merger Sub was formed solely for the purpose of effecting the Merger and have not engaged in any business activities or conducted any operations other than in connection with the transactions contemplated hereby.

4.14 Brokers. No broker, finder or investment banker is entitled to any brokerage, finder's or other fee or commission in connection with the transactions contemplated by this Agreement or any Related Agreement based upon arrangements made by or on behalf of Parent or Merger Sub.

4.15 Financial Capability. Parent has sufficient funds to pay the Closing Consideration and the aggregate Milestone Consideration contemplated by this Agreement and to perform the other obligations of Parent and Merger Sub contemplated by this Agreement.

4.16 No Other Representation and Warranties. [***].

ARTICLE 5

[RESERVED]

ARTICLE 6

ADDITIONAL AGREEMENTS

6.1 [Reserved].

6.2 Confidentiality.

(a) Each of the parties hereto hereby agrees that the disclosure of information obtained hereunder or pursuant to the negotiation and execution of this Agreement or the consummation of the transactions contemplated hereby shall be governed by the terms of the Confidentiality Agreement dated as of August 20, 2021, between the Company and Parent (the "**NDA**"); *provided*, that the NDA shall terminate and be of no further force and effect effective as of the Closing; *provided*, *further*, that notwithstanding anything to the contrary set forth herein or therein, Parent shall not be restricted from making disclosures required by applicable securities laws or under applicable stock exchange rules if Parent makes available to the Company any such disclosure (solely to the extent it would have otherwise been restricted by the NDA) and considers in good faith the inclusion of any reasonable and timely comments provided to Parent by the Company. The Securityholder Representative shall hold in confidence all documents and information furnished to it in connection with the transactions contemplated hereby.

(b) Notwithstanding the foregoing, Parent shall ensure that all [***] Confidential Information shall not be used by Parent, any of its Affiliates or any of their respective representatives except solely for the purposes of this Agreement, shall be maintained in confidence by such Persons, and shall not otherwise be disclosed to any other Person, without the prior written consent of the Company, if prior to the Closing or the Securityholder Representative, if after the Closing except to the extent that the [***] Confidential Information (i) is lawfully disclosed to the receiving party by sources (other than the disclosing party) rightfully in possession of the [***] Confidential Information through no breach or violation of any existing confidentiality obligation or duty, or (ii) becomes published or generally known to the public, without any receiving party violating this **Section 6.2(b)**. Notwithstanding the foregoing, this **Section 6.2(b)** shall not prohibit Parent from disclosing [***] Confidential Information to the extent required (1) by applicable securities laws or under applicable stock exchange rules if Parent makes available to the Company if prior to the Closing, or to the Securityholder Representative if after the Closing, any such disclosure (solely to the extent it would have otherwise been restricted by this **Section 6.2(b)**) and considers in good faith the inclusion of any reasonable and timely comments provided to Parent by the Company or the Securityholder Representative, as applicable, or (2) to enforce the terms of this Agreement. For purposes of this **Section 6.2(b)**, "[***] **Confidential Information**" shall mean any information disclosed or made available by or on behalf of the Company or any representative thereof to Parent, any of its Affiliates or any of their respective representatives in connection with the Letter of Intent, this Agreement, the Related Agreements and the transactions contemplated hereby and thereby in each case to the extent related to the [***] Company, including, without limitation, any such information or material that has not been made generally available to the public, such as: (a) *corporate information*, including plans, strategies, methods, policies, resolutions, contractual negotiations or legal proceedings; (b) *marketing information*, including strategies, methods, customer identities or other information about customers, prospect identities or other information about prospects, or market analyses or projections; (c) *financial information*, including cost and performance data, debt arrangements, equity structure, investors and holdings, purchasing and sales data and price lists; (d) *operational and technological information*, including plans, specifications, manuals, forms, templates, software, designs, methods, procedures, formulas, discoveries, inventions, improvements, concepts and ideas; and (e) *personnel information*, including personnel lists, employee information (which may include personably identifiable information), reporting or organizational structure, resumes, personnel data, compensation structure, performance evaluations and termination arrangements or documents.

6.3 Public Disclosure. Parent and the Company agree to issue a press release announcing this Agreement and the Closing in the form attached as **Annex B**. Except as expressly provided for herein, the Company shall not (nor shall it authorize any Company Securityholder or the Securityholder Representative to), directly or indirectly, issue or make any statement or communication to any third party (other than its legal, accounting and financial advisors that are bound by confidentiality restrictions) regarding the existence or subject matter of this Agreement or the transactions contemplated hereby (including any claim or dispute arising out of or related to this Agreement, or the interpretation, making, performance, breach or termination hereof and the reasons therefor) without the consent of Parent or as expressly provided for herein. Notwithstanding anything herein to the contrary, following Closing, the Securityholder Representative shall be permitted to: (i) after the public announcement of the Merger, announce that it has been engaged to serve as the Securityholder Representative in connection herewith as long as such announcement does not disclose any of the terms hereof not already otherwise publicly announced; and (ii) disclose information as required by law or to advisors and representatives of the Securityholder Representative and to the Company Securityholders, in each case who have a need to know such information, provided that such persons are subject to confidentiality obligations with respect thereto.

6.4 FIRPTA Compliance. At or prior to the Closing, the Company shall deliver to Parent a properly executed statement and executed notice to the IRS dated within thirty (30) days of the Closing Date (with written authorization for Parent to deliver such notice to the IRS) in a form reasonably acceptable

to Parent under Treasury Regulation Section 1.1445-2(c)(3) and 1.897-2(h)(2), as applicable ("**FIRPTA Compliance Certificate**").

6.5 [Reserved].

6.6 [Reserved].

6.7 [Reserved].

6.8 [Reserved].

6.9 Resignation of Officers and Directors. The Company shall cause each officer and director (or similar positions) of the Company, respectively, to execute a resignation and release letter in the form attached hereto as Exhibit F (the "**Director and Officer Resignation Letter**"), effective as of the Effective Time (unless otherwise instructed in writing by Parent prior to the Closing).

6.10 [Reserved].

6.11 Termination of Employees and Consultants. Subject to, and effective as of immediately prior to, the Closing, the Company shall terminate or otherwise end the service of all employees and consultants of the Company.

6.12 [Reserved].

6.13 Indemnification of Officers and Directors.

(a) Prior to the Closing Date, the Company shall purchase and fully pay the premium (or include the premium payable as a Transaction Expense if not paid prior to the Closing) (the "**D&O Tail Insurance**") for directors' and officers' liability insurance policy in respect of acts or omissions occurring at or prior to the Effective Time for six years from the Effective Time, covering each director and executive office of the Company as of immediately prior to the Closing.

(b) The indemnification, advancement of expenses and exculpation provisions applicable to current and former directors, officers and employees of the Company as set forth in the Charter Documents as of the date hereof are incorporated herein by reference as if set forth herein in full and made an integral part of this Agreement. Parent agrees that all rights to indemnification, advancement of expenses and exculpation existing in favor of, and all limitations on the personal liability of, each present and former director and officer of the Company (the "**D&O Indemnified Parties**") provided for therein shall continue for six (6) years after the Closing Date (or, if longer, during the continuation of any claim which was asserted during such time period). Nothing set forth herein shall require the maintenance or continuation of any provision of the organizational documents of the Company by Parent, its Affiliates (including the Surviving Corporation) or any of its successors, and it is intended that this **Section 6.13(b)** is a full and complete alternative in lieu thereof.

(c) The obligations under this **Section 6.13** shall not be terminated or modified in such a manner as to adversely affect any D&O Indemnified Party without the prior written consent of such D&O Indemnified Party (it being expressly agreed that the D&O Indemnified Parties shall be third party beneficiaries of this **Section 6.13** and shall be entitled to enforce the covenants contained herein).

6.14 [Reserved].

6.15 [Reserved].

6.16 Additional Covenants.

(a) Parent shall deliver to the Securityholders Representative, prior to the issuance, if any, of the [***] Milestone Shares, documentation from The Nasdaq Stock Market LLC evidencing that the application for the Listing of Additional Shares covering the [***] Milestone Shares has been submitted,

and Parent shall take all actions necessary to cause such shares of Parent Common Stock to be listed on Nasdaq from and after the issuance thereof hereunder.

(b) Parent shall take all action necessary to cause Merger Sub to perform its obligations under this Agreement and to consummate the Merger on the terms and subject to the conditions set forth in this Agreement.

(c) Schedule I is hereby incorporated by reference into, and made an essential part of, this Agreement. Parent and Merger Sub shall, and shall cause each of their respective Affiliates to, abide by, and timely perform, all of Parent's, Merger Sub's and its Affiliate's obligations set forth in Schedule I in full.

ARTICLE 7

CONDITIONS TO THE MERGER

7.1 Conditions to Obligations of Each Party to Effect the Merger. The respective obligations of the Company, Parent and Merger Sub to effect the Merger shall be subject to the satisfaction or written waiver, at or prior to the Closing, of the following conditions:

(a) No Order. No Governmental Entity shall have enacted, issued, promulgated, enforced or entered any Order which is in effect and which has the effect of making the Merger, this Agreement, any of the Related Agreements or any of the transactions contemplated hereby or thereby illegal or otherwise prohibiting or preventing the consummation of the Merger, this Agreement, any of the Related Agreements or any of the transactions contemplated hereby or thereby.

(b) No Injunctions; Restraints; Illegality. No temporary restraining order, preliminary or permanent injunction or other order issued by any court of competent jurisdiction or other legal restraint or prohibition preventing the consummation of the Merger, this Agreement, any of the Related Agreements or any of the transactions contemplated hereby or thereby shall be in effect.

7.2 Conditions to Obligations of Parent and Merger Sub. The obligations of Parent and Merger Sub to effect the Merger shall be subject to the satisfaction at or prior to the Closing of each of the following conditions, any of which may be waived, in writing, exclusively by Parent:

(a) Representations, Warranties and Covenants. (i) Each of the representations and warranties of the Company in this Agreement shall be (A) true and correct as of the date hereof and (B) true and correct in all material respects (without giving effect to "material," "material adverse effect," "Company Material Adverse Effect" or any other materiality qualifications in such representations and warranties) as of the Closing as though such representations and warranties were made as of the Closing, except for those representations and warranties that refer to facts existing at a specific date, which shall be true, correct and complete in all material respects (without giving effect to "material," "material adverse effect," "Company Material Adverse Effect" or any other materiality qualifications in such representations and warranties) as of such date; and (ii) the Company and the Company Securityholders shall have performed and complied in all material respects with all covenants and obligations under this Agreement and the Related Agreements required to be performed and complied with by such parties as of or prior to the Closing.

(b) [Reserved].

(c) Joinder Agreements, Letters of Transmittals and Certification Forms. Parent shall have received executed Joinder Agreements signed by the Company Securityholders, Certification Forms from each Company Securityholder who is an Accredited Investor, and duly executed and completed Letters of Transmittals from Company Securityholders that hold shares of Company Capital Stock and Company Options that, taken together, constitute 100% of the Fully Diluted Share Count as of immediately prior to the Closing, each of which shall be in full force and effect.

(d) [Reserved].

(e) Employment and Consultants. Parent shall have received reasonably acceptable documentation that each (i) employee of the Company and (ii) consultant of the Company shall have ceased their employment or service relationship, as the case may be, with the Company, subject to, and effective as of immediately prior to, the Closing. Parent shall also have received an executed release agreement from each such employee and consultant who is not a party to the Joinder Agreement, in form and substance reasonably acceptable to the Parent.

(f) Resignation of Officers and Directors. Parent shall have received from each officer and director of the Company as of immediately prior to the Closing a Director and Officer Resignation Letter.

(g) Certificates of the Company. Parent shall have received (i) a certificate from the Company, validly executed by the Chief Executive Officer of the Company for and on the Company's behalf, to the effect that, as of the Closing, the conditions set forth in **Section 7.2(g)** have been satisfied, and (ii) the Closing Statement in accordance with **Section 2.9**.

(h) Certificate of Secretary of the Company. Parent shall have received a certificate, validly executed by the Secretary of the Company, certifying as to (i) the terms and effectiveness of the Charter Documents, (ii) the valid adoption of resolutions of the Board of Directors of the Company (whereby the Merger, this Agreement, the Related Agreements to which the Company is or will be a party, and the other transactions contemplated hereby and thereby were unanimously approved by the Board of Directors and the Stock Plan was terminated, effective as of the Closing), and (iii) the valid adoption of this Agreement and approval of the Merger, the Related Agreements to which the Company is or will be a party and the other transactions contemplated hereby and thereby, in each case, by the Stockholder Consent whereby all requisite approvals by the Company of this Agreement, the Merger, the Related Agreements to which the Company is or will be a party and the consummation of the transactions contemplated hereby and thereby were obtained.

(i) FIRPTA Compliance Certificate. Parent shall have received a copy of the FIRPTA Compliance Certificate, validly executed by a duly authorized officer of the Company.

(j) Section 280G Payments. The Company shall have delivered to Parent evidence of the 280G Stockholder Approval in form and substance reasonably acceptable to Parent.

(k) Spreadsheet. Parent shall have received from the Company the Spreadsheet in form and substance reasonably acceptable to Parent.

(l) Invention Assignment Agreements. The Company shall have delivered to Parent the duly executed invention assignment agreements in the form attached at **Schedule 7.2(l)** for any Person listed on **Schedule 7.2(l)**.

(m) [***] Documentation. The Company shall have delivered to Parent a copy of the duly executed [***].

(n) Escrow Agreement. The Escrow Agreement, dated as of the Closing Date, and having been executed and delivered by the Securityholder Representative, shall be in full force and effect.

(o) Transition Services Agreements. Parent shall have received (i) a duly executed Primary TSA from the Key Consultant, (ii) a duly executed Additional TSA #1 from Additional Consultant #1 and (iii) a duly executed Additional TSA #2 from Additional Consultant #2.

(p) Covenant Agreement. Parent shall have received a duly executed Covenants Agreement from the Person listed on **Annex A-4**.

7.3 Conditions to Obligations of the Company. The obligations of the Company to effect the Merger shall be subject to the satisfaction at or prior to the Closing of each of the following conditions, any of which may be waived, in writing, exclusively by the Company:

(a) Representations, Warranties and Covenants. (i) Each of the representations and warranties of Parent and Merger Sub in this Agreement shall be (A) true and correct as of the date hereof and (B) true and correct in all material respects (without giving effect to "material," "material adverse effect," or any other materiality qualifications in such representations and warranties) as of the Closing as though such representations and warranties were made as of the Closing, except for those representations and warranties that refer to facts existing at a specific date, which shall be true, correct and complete in all material respects (without giving effect to "material," "material adverse effect," or any other materiality qualifications in such representations and warranties) as of such date; and (ii) Parent and Merger Sub shall have performed and complied in all material respects with all covenants and obligations under this Agreement and the Related Agreements required to be performed and complied with by such parties as of or prior to the Closing.

(b) Certificate of Parent. The Company shall have received a certificate executed on behalf of Parent by an officer of Parent and on its behalf to the effect that, as of the Closing, the conditions set forth in **Section 7.3(a)** have been satisfied.

(c) Escrow Agreement. The Escrow Agreement, dated as of the Closing Date, and having been executed and delivered by Parent and the Escrow Agent, shall be in full force and effect.

(d) Payment of Estimated Transaction Expenses. Parent shall have delivered to the Company documentation reasonably satisfactory to the Company evidencing payment of the Estimated Transaction Expenses, in each case to the applicable counterparty.

(e) Certificate of Secretary of Parent. The Company shall have received a certificate, validly executed by the Secretary of Parent, certifying as to the valid adoption of resolutions of the Board of Directors of Parent (whereby the Merger, this Agreement, the Related Agreements to which Parent is or will be a party, the payment and/or issuance and delivery of the [***] Milestone Shares to the Company Securityholders, as applicable, of the Closing Consideration and any Milestone Consideration, and the other transactions contemplated hereby and thereby were unanimously approved by such Board of Directors).

(f) Certificate of Secretary of Merger Sub. The Company shall have received a certificate, validly executed by the Secretary of Merger Sub, certifying as to the valid adoption of resolutions of the Board of Directors of Merger Sub (whereby the Merger, this Agreement, the Related Agreements to which Merger Sub is or will be a party, and the other transactions contemplated hereby and thereby were unanimously approved by its Board of Directors).

ARTICLE 8

TAX MATTERS

8.1 Tax Returns.

(a) Tax Returns. Parent shall prepare and file or shall cause to be prepared and filed all Tax Returns required to be filed by the Company after the Closing Date for Pre-Closing Tax Periods, including Tax Returns with respect to a Straddle Period, it being understood that, all Taxes indicated as due and payable on such Tax Returns shall be the responsibility of the Indemnifying Holders to the extent such Indemnifying Holders are liable for such Taxes under **Section 9.2(a)**. Such Tax Returns shall be prepared in accordance with past practices and customs unless otherwise required by applicable law. Parent shall provide the Securityholder Representative with a draft of each such Tax Return no later than 30 days (or, in the case of a non-income Tax Return, as soon as reasonably practicable) prior to the due date for filing thereof (taking into account all available extensions) for the Securityholder Representative's review and

comment and shall consider in good faith any reasonable comments provided in writing by the Securityholder Representative within 20 days (or, in the case of any such Tax Return due fewer than 30 days after the Closing Date, provided in writing by the Securityholder Representative at least 5 days prior to the due date thereof) after the Securityholder Representative's receipt of such Tax Returns.

8.2 Tax Contests. Parent shall promptly notify the Securityholder Representative in writing upon receipt by Parent or the Company of notice in writing of any audit or other administrative proceeding or inquiry or judicial proceeding involving Taxes that could reasonably be expected to give rise to a claim for indemnification under **Section 9.2** (a "**Tax Contest**"); *provided*, that the failure of the notified party to give any other party notice as provided herein shall not relieve such other party of its indemnification obligations under **Article 9** except to the extent that such other party is actually and materially prejudiced thereby. Parent shall have the exclusive right to control and conduct any Tax Contest; provided, that, Parent (i) shall keep the Securityholder Representative reasonably informed of all material developments on a timely basis, and shall provide to the Securityholder Representative copies of any written material correspondence received from the Tax authority related to such Tax Contest as reasonably requested by the Non-Controlling Party, (ii) shall permit the Securityholder Representative, at its own expense, to attend and participate in all conferences, meetings and proceedings relating to such Tax Contest, and (iii) shall not, without the prior written consent of the Securityholder Representative (which consent shall not be unreasonably withheld, conditioned or delayed), enter into any compromise or settlement of such Tax Contest. In the event of any conflict or overlap between the provisions of this **Section 8.2** and **Section 9.6**, the provisions of this **Section 8.2** shall control.

8.3 Straddle Periods. For purposes of this Agreement, in order to apportion appropriately any Taxes relating to a Straddle Period, the portion of any such Taxes that are allocable to the Pre-Closing Tax Period shall be (a) in the case of income Taxes and all other Taxes that are not imposed on a periodic basis, the amount that would be payable if the taxable year or period ended on the Closing Date based on an interim closing of the books (and for such purpose, the Tax period of any controlled foreign corporation, partnership or other pass-through entity in which the Company holds a beneficial interest shall be deemed to terminate at such time) and (b) in the case of any Taxes that are imposed on a periodic basis, the amount of such Taxes for the relevant period multiplied by a fraction the numerator of which shall be the number of days from the beginning of the period up to and including the Closing Date and the denominator of which shall be the number of days in the entire period.

8.4 Tax Cooperation. Parent, the Company, their respective Subsidiaries and the Securityholder Representative shall cooperate fully, as and to the extent reasonably requested by the other parties hereto, in connection with the filing, preparation and review of Tax Returns, and any Tax audits, Tax proceedings or other Tax-related claims (including claims under this Agreement). Such cooperation shall include providing records and information that are reasonably relevant to any such matters and in their possession (or if not in their possession, if reasonably able to obtain), making employees available on a mutually convenient basis to provide additional information, and explaining any materials provided pursuant to this **Section 8.4**. Parent, the Company, their respective Subsidiaries and the Securityholder Representative shall not destroy or dispose of any Tax workpapers, schedules or other materials and documents in their possession or under their control supporting Tax Returns of the Company for Pre-Closing Tax Periods until the seventh (7th) anniversary of the Closing Date.

8.5 Transfer Taxes. All sales, use, transfer, value added, goods and services, gross receipts, excise, conveyance and documentary, stamp, recording, registration, conveyance and similar Taxes and fees incurred in connection with the transactions pursuant to this Agreement ("**Transfer Taxes**") shall be borne [***]. The party required by applicable Law to file any Tax Return with respect to Transfer Taxes shall do so in the time and manner prescribed by applicable Law.

ARTICLE 9

SURVIVAL OF REPRESENTATIONS AND WARRANTIES; INDEMNIFICATION; ESCROW

9.1 Survival of Representations and Warranties. The representations and warranties of the Company contained in this Agreement or the Certificates shall survive until the first (1st) anniversary of the Closing Date (the "**Survival Date**"); *provided*, that in the event of any breach of any such representation or warranty that results from Fraud committed by or on behalf of the Company, such claim shall survive without limitation; *provided*, *further*, that (a) [***] shall survive until the [***], (b) the representations and warranties of the Company contained in [***] (and the portion of the Certificates relating thereto) shall survive until the [***] of the Closing Date, and (c) that the representations and warranties of the Company contained in [***] shall survive until [***]. The representations and warranties of Parent and Merger Sub contained in **Article 4** of this Agreement, the Related Agreements or in any certificate or other instrument delivered pursuant to this Agreement shall survive until the later of (i) the [***] of the Closing Date or (ii) the [***] of the [***] Milestone Shares (assuming the [***] Milestone is triggered); *provided*, that in the event of any breach of any such representation or warranty that results from Fraud committed by or on behalf of Parent or Merger Sub, such claim shall survive without limitation; *provided*, *further*, that the representations and warranties of Parent contained in [***] (and the portion of the Certificates relating thereto), shall survive until [***]. If an Officer's Certificate complying with the requirements of **Section 9.4(a)** is delivered before the date on which such representation, warranty or indemnity ceases to survive hereunder, then the right to indemnification under this **Article 9** shall survive for all Losses asserted therein and all other Losses reasonably relating to the breach(es) alleged therein shall survive for the benefit of all the Parent Indemnified Parties, on the one hand, or the Company Indemnified Parties, on the other hand (each, an "**Indemnified Party**") beyond the expiration of the applicable survival period for such representation, warranty or indemnity until such claims are fully and finally resolved, in each case subject to the provisions of this **Article 9**. The parties further acknowledge that the time periods set forth in this **Section 9.1** for the assertion of claims under this Agreement are the result of arms' length negotiation among the parties and that they intend for the time periods to be enforced as agreed by the parties. For clarity, any covenant or obligation applicable to Parent, Company or Merger Sub contained in this Agreement and required to be performed or complied with prior to, as of or after, the Closing shall survive until its satisfaction in accordance with the terms of this Agreement.

9.2 Indemnification.

(a) By virtue of the Merger, subject to the provisions of this **Article 9**, from and after the consummation of the Merger, each of the Indemnifying Holders agrees, severally (based on such Indemnifying Holder's Pro Rata Share of each Loss covered by this **Section 9.2(a)**) and not jointly, to indemnify and hold harmless the Parent Indemnified Parties, from and against, and shall compensate and reimburse the Parent Indemnified Parties for, all Losses incurred by the Parent Indemnified Parties, or any of them (including the Surviving Corporation), to the extent arising under, in connection with or as a result of the following (the "**Indemnifiable Matters**"):

(i) any breach of a representation or warranty of the Company contained in (A) **Article 3** of this Agreement, (B) any Related Agreement or (C) any Certificate,

(ii) any amounts paid or payable by Parent with respect to any Dissenting Shares to the extent such payments exceed the amount of Merger Consideration to which the Person would have been entitled pursuant to this Agreement in respect of such Dissenting Shares of such Person but for the exercise of appraisal rights with respect to such Dissenting Shares,

(iii) (A) any inaccuracy or omission in the Spreadsheet that results in any Person being paid more or less than such Person's applicable portion of the Merger Consideration or (B) any

Person being omitted as a Company Securityholder therein who claims to be or is entitled to a portion of the Merger Consideration pursuant to this Agreement and applicable Law,

(iv) any Transaction Expenses or Indebtedness of the Company not accounted for or otherwise resolved in the calculation of the Closing Adjustment pursuant to **Section 2.9**, and/or

(v) any Pre-Closing Taxes, except to the extent taken into account in the final calculation of Closing Net Debt Amount.

(b) For the purpose of **Section 9.2(a)(i)** only (and excluding any breach of **Sections 3.8 or 3.9**), when determining the amount of Losses suffered by an Indemnified Party as a result of any breach of any representation or warranty of the Company that is qualified or limited in scope as to material, material adverse effect, Company Material Adverse Effect or any other materiality qualifications or limitations shall be deemed to be made or given without such qualification or limitation.

(c) The Indemnifying Holder, solely in its capacity as an indemnifying party under this **Article 9**, shall not have any right of contribution, indemnification or right of advancement from the Surviving Corporation or Parent or any of their respective Affiliates with respect to any Loss claimed by a Parent Indemnified Party.

(d) The Company and the Securityholder Representative (on behalf of the Company Securityholders) have agreed that the Parent Indemnified Parties' rights to indemnification, compensation and reimbursement contained in this **Article 9** relating to the representations, warranties and obligations of the Company or the Securityholder Representative are part of the basis of the bargain contemplated by this Agreement.

(e) This **Article 9** shall constitute the sole and exclusive remedy of the Indemnified Parties after the Closing with respect to any and all claims based upon or arising out of any breach or inaccuracy of, or failure to perform, any representation, warranty, agreement or obligation of the Company set forth in this Agreement, any Related Agreement or Certificate or otherwise relating to the subject matter of this Agreement, any Related Agreement or Certificate or the transactions contemplated hereby or thereby, *provided*, that notwithstanding anything herein to the contrary, nothing in this **Section 9.2(e)** shall limit the rights or remedies of any Indemnified Party (i) for claims under this **Article 9** arising from Fraud against the Person that committed such Fraud, (ii) against a signatory to a Related Agreement (other than the Company) for breaches of such Related Agreement by such signatory, (iii) with respect to specific performance, injunctive and other non-monetary equitable relief or (iv) any failure by Parent, Company or Merger Sub to perform or comply with any covenant or agreement applicable to such party contained in this Agreement and required to be performed or complied with prior to, as of or after the Closing (such rights and remedies, collectively, "**Excluded Claims**"). In furtherance of the foregoing, each Indemnified Party hereby waives, to the fullest extent permitted under Law, from and after Closing, any and all rights, claims, causes of action and remedies based upon or arising out of any breach or inaccuracy of, or failure to perform, any representation, warranty, agreement or obligation of the Company set forth in this Agreement, any Related Agreement or Certificate or otherwise relating to the subject matter of this Agreement, any Related Agreement or Certificate or the transactions contemplated hereby or thereby that such Indemnified Party may have against the other parties hereto and their Affiliates and each of their respective representatives arising under or based upon any Law, except pursuant to the indemnification provisions set forth in this **Article 9** and except with respect to Excluded Claims.

9.3 Maximum Payments; Remedy.

(a) The Parent Indemnified Parties shall not be entitled to any recovery resulting from **Section 9.2(a)(i)** until such time (if at all) as the total amount of all Losses for which the Parent Indemnified Parties are entitled to indemnification under Section **9.2(a)(i)** exceeds $[***] in the aggregate (the "**Basket**") and in such event, the Parent Indemnified Parties shall, subject to the limitations set forth in the remaining subsections of **Section 9.3**, be entitled to be indemnified against and compensated and

reimbursed for all Losses from the first dollar of Losses, including the Basket; *provided*, that the limitation set forth in this sentence of **Section 9.3(a)** shall not apply to any indemnification claims relating to any breach of any representation or warranty that results from Fraud committed by or on behalf of the Company. [***].

(b) Except in the case of any breach of a representation or warranty hereunder that results from Fraud committed by or on behalf of the Company prior to the Closing in connection with the transactions contemplated hereby, the maximum amount that the Parent Indemnified Parties may recover from each Indemnifying Holder under **Sections 9.2(a)(i)** and **9.2(a)(iv)** shall be limited to such Indemnifying Holder's Pro Rata Share of the then-available Escrow Fund (such amount, the "**General Cap**"); *provided*, that (i) in the case of any breach or inaccuracy of the Special Representations, the maximum amount that the Parent Indemnified Parties may recover from each Indemnifying Holder shall be limited to such Indemnifying Holder's Pro Rata Share of $[***] (such amount, [***], the "**Special Cap**") and (ii) in the case of any breach of the Fundamental Representations, the maximum amount that the Parent Indemnified Parties may recover from each Indemnifying Holder hereunder shall be limited to the aggregate consideration actually received (or receivable under the Milestone Consideration in connection with the exercise of the Offset Right) by such Indemnifying Holder pursuant to this Agreement (the "**Indemnifying Holder Proceeds**"). Except for Fraud committed by such Indemnifying Holder, no Indemnifying Holder shall be liable for any Fraud committed by the Company or any if its directors, officers, employees, advisors, agents or representatives beyond such Indemnifying Holder's Indemnifying Holder Proceeds. Notwithstanding anything contained herein to the contrary, nothing herein shall limit the recovery amount against an Indemnifying Holder, or remedies available to a Parent Indemnified Party, for any breach of a representation or warranty hereunder that results from such Indemnifying Holder's Fraud committed in connection with the transactions contemplated hereby.

(c) Except in the case of any breach of a representation or warranty that results from Fraud committed by or on behalf of the Parent prior to the Closing in connection with the transactions contemplated hereby, the maximum amount that the Company Indemnified Parties may recover [***] (the "**Parent General Cap**"); *provided*, that in the case of any breach of the Parent Fundamental Representations, the maximum amount that the Company Indemnified Parties may recover from each Parent and Merger Sub shall be limited to the aggregate Indemnifying Holder Proceeds (assuming for this purpose all Merger Consideration has been paid). Notwithstanding anything contained herein to the contrary, nothing herein shall limit the recovery amount against Parent, or remedies available to a Company Indemnified Party, for any breach of a representation or warranty hereunder that results from Fraud committed by or on behalf of the Parent in connection with the transactions contemplated hereby.

(d) The maximum amount that the Parent Indemnified Parties may recover from each Indemnifying Holder under **Section 9.2(a)** shall be limited to the Indemnifying Holder Proceeds.

(e) Nothing in this **Article 9** (except as provided in **Section 9.9**) shall limit the Liability of any party hereto for any breach of any representation, warranty, covenant or agreement contained in this Agreement or any Related Agreement if the Merger does not close.

(f) For the avoidance of doubt, and notwithstanding anything to the contrary in this Agreement, in no event shall any Indemnified Party be entitled to any double recovery with respect to any particular Loss.

(g) [***].

(h) No Losses may be claimed under **Section 9.2(a)** by any Indemnified Party to the extent such Losses are included in the calculation of the Closing Net Debt Amount as finally determined under **Section 9.2(d)**.

(i) [***].

9.4 Claims for Indemnification; Resolution of Conflicts.

(a) Making a Claim for Indemnification; Officer's Certificate. A claim for indemnification pursuant to **Section 9.2(a)** or **Section 9.9(a)** for any Loss not involving a Third Party Claim (a "**Direct Claim**") may be asserted by written notice to Securityholder Representative or Parent, as applicable, in accordance with this **Article 9** promptly after any Indemnified Party shall have knowledge of any such Loss; provided, however, that failure to notify the Securityholder Representative or Parent, as applicable, shall not preclude such Indemnified Parties from any indemnification which such Indemnified Party may claim in accordance with this **Section 9.4(a)**, except to the extent that the Securityholder Representative, Indemnifying Holders or Parent, as applicable, suffer actual loss or prejudice or otherwise forfeits rights or defenses by reason of such failure to provide timely notice.

(b) In order for an Indemnified Party to seek recovery of Losses pursuant to this **Article 9**, an Indemnified Party shall deliver to the Securityholder Representative or Parent, as applicable, an Officer's Certificate in respect of such claim. The date of such delivery of an Officer's Certificate is referred to herein as the "**Claim Date**" of such Officer's Certificate (and the claims for indemnification contained therein). For purposes hereof, "**Officer's Certificate**" means a certificate signed by any authorized representative of an Indemnified Party (or, in the case of an Indemnified Party who is an individual, signed by such individual and, in the case of a Company Indemnified Party, the Securityholder Representative) (i) certifying that such Indemnified Party has paid, sustained or otherwise incurred, or reasonably anticipates that it will have to pay, sustain or otherwise incur, Losses for which such Indemnified Party is entitled to indemnification under this **Article 9**, and the amount of such Losses and reasonably anticipated Losses, and (ii) specifying in reasonable detail (A) the individual items of Losses included in the amount so stated and (B) the basis for indemnification under this **Article 9** to which such item of Loss is related and (C) attaching copies of all reasonably procurable written evidence in support of such Losses and basis for indemnification. The Indemnified Party shall cooperate with the Securityholder Representative or Parent, as applicable, in its investigation of any matters set forth in such Officer's Certificate by giving such information and assistance (including access to premises and personnel and the right to examine and copy any accounts, documents or records in support thereof) as the Securityholder Representative or Parent, as applicable, or any of their respective professional advisors may reasonably request.

(c) Objecting to a Claim for Indemnification.

(i) The Securityholder Representative or Parent, as applicable, may object to a claim for indemnification set forth in an Officer's Certificate by delivering to the Indemnified Party seeking indemnification a written statement of objection to the claim made in the Officer's Certificate (an "**Objection Notice**"); *provided*, that, to be effective, such Objection Notice must (A) be delivered to such Indemnified Party at the address on the respective Officer's Certificate pursuant to **Section 11.1** prior to 5:00 p.m. New York time on the [***] following the Claim Date of the Officer's Certificate (such deadline, the "**Objection Deadline**" for such Officer's Certificate and the claims for indemnification contained therein) and (B) set forth in reasonable detail the nature of the objections to the claims in respect of which the objection is made.

(ii) To the extent the Securityholder Representative or Parent, as applicable, does not object in writing (as provided in **Section 9.4(c)(i)**) to the claims contained in an Officer's Certificate prior to the Objection Deadline for such Officer's Certificate, such failure to so object shall be an irrevocable acknowledgment by the Securityholder Representative or the Parent, as applicable, that the Indemnified Party is entitled to indemnification for the full amount of the Losses set forth in such Officer's Certificate or, in the case of reasonably anticipated Losses, for the Losses actually incurred by such Indemnified Party in respect thereof(and such entitlement shall be conclusively and irrefutably established) (any such claim, an "**Unobjected Claim**"). Within [***] of a claim becoming an

Unobjected Claim, the Indemnifying Holders shall make the applicable payment to such Indemnified Party, subject to **Sections 9.3**, **9.4(f)** and **9.4(b)**.

(d) Resolution of Conflicts. In case the Securityholder Representative or Parent, as applicable, timely delivers an Objection Notice in accordance with **Section 9.4(c)(i)** hereof, the Securityholder Representative, or Parent, as applicable, and the applicable Indemnified Parties shall attempt in good faith to agree upon the rights of the respective parties with respect to each of such claims. If the Securityholder Representative or Parent, as applicable, and the Indemnified Parties reach an agreement, a memorandum setting forth such agreement shall be prepared and signed by all applicable parties (any claims covered by such an agreement, "**Settled Claims**"). Any amounts required to be paid as a result of a Settled Claim shall be paid by the Indemnifying Holder to the Indemnified Parties pursuant to the Settled Claim within [***] of the applicable claim becoming a Settled Claim, subject to **Sections 9.3(b)**, **9.4(f)** and **9.4(b)**. If the Securityholder Representative or Parent, as applicable, and the Indemnified Parties are unable to reach an agreement, the matter specified in the Objection Notice shall be resolved pursuant to **Section 11.7** (any claims resolved pursuant thereto, "**Resolved Claims**").

(e) Payable and Unresolved Claims. A "**Payable Claim**" means a claim for indemnification of Losses under this **Article 9**, to the extent that such claim has not yet been satisfied pursuant to **Section 9.4(f)**, that is (i) a Resolved Claim, (ii) a Settled Claim, or (iii) an Unobjected Claim. An "**Unresolved Claim**" means any claim for indemnification of Losses under this **Article 9** specified in any Officer's Certificate in compliance with **Section 9.4(b)** to the extent that such claim is not a Payable Claim.

(f) Escrow Amount; Recovery of Losses.

(i) Subject to **Sections 9.4(b)**, **9.4(c)**, **9.4(d)** and **9.4(e)** above, by virtue of this Agreement and as partial security for the indemnity obligations provided for in **Sections 9.2(a)** hereof, subject to the terms of this Agreement, the Parent Indemnified Parties shall have the right, and shall be required, in the manner provided in this **Section 9.4(f)** to recover the amount of any Losses with respect to which the Parent Indemnified Parties are entitled to indemnification hereunder:

(A) *first*, by the release from the Escrow Fund until the Escrow Fund has been exhausted;

(B) *second*, other than with respect to a breach of representations and warranties that are not Fundamental Representations or Special Representations (which Losses may only be deducted from the Escrow Fund under clause (A) above), from the Indemnifying Holders directly or by the offset against any Milestone Consideration not yet paid in accordance with **Section 9.4(f)(v)** (the "**Offset Right**"), which shall be based upon the Parent Common Stock Price for any offset against Milestone Consideration payable in shares of Parent Common Stock.

(ii) As promptly as practicable after the date any claim becomes a Payable Claim, payment of the amount of such Payable Claim, ratably in accordance with **Section 9.4(f)(i)**, shall be made to the Indemnified Parties from the Escrow Fund in accordance with **Section 9.5(b)(i)**.

(iii) At the Escrow Release Time, if and to the extent the dollar equivalent (calculated in accordance with **Section 9.4(f)(i)**) of the Escrow Fund exceeds the aggregate amount of Unresolved Claims as of the Escrow Release Time, then the amount of such excess shall be paid in accordance with **Sections 9.4(f)(i)**, from the Escrow Fund in accordance with **Section 9.5(b)(ii)** to the Company Securityholders so that each Company Securityholder receives its, his or her Pro Rata Share of such cash representing such excess.

(iv) In the event that as of the Escrow Release Time there shall be any Unresolved Claims for which cash in the Escrow Fund was withheld from distribution under **Section 9.4(f)(iv)**. from and after the Escrow Release Time until such time as the Escrow Fund has been fully depleted

pursuant to **Sections 9.4(f)(i)** and **9.4(f)(iii)** and the last sentence of this **Section 9.4(f)(iv)**, Parent and the Securityholder Representative shall promptly deliver to the Escrow Agent a joint notice, as each Unresolved Claim becomes resolved as either a Payable Claim or a claim that is not a Payable Claim, of such resolution and either (A) if and to the extent such Unresolved Claim has been resolved as a Payable Claim, such notice shall specify the amount of such Payable Claim, and payment of such amount, ratably in accordance with **Section 9.4(f)(i)**, shall be made to the Indemnified Parties from the Escrow Fund in accordance with **Section 9.4(f) and Section 9.5(b)(i)**, and (B) if and to the extent such Unresolved Claim has been resolved as not a Payable Claim, such notice shall specify the amount of cash withheld from distribution as a result of such Unresolved Claim under **Section 9.4(f)(iii)**. The amount, if any, of cash specified pursuant to the preceding clause (B), together with all other amounts then in the Escrow Fund (i.e., earnings (including interest and dividends) on the Escrow Amount and on any such earnings in accordance with the Escrow Agreement) shall be paid from the Escrow Fund in accordance with **Section 9.5(b)(ii)** to the Company Securityholders so that each Company Securityholder receives its, his or her Pro Rata Share of such cash.

(v) The parties hereby acknowledge and agree that the obligation of Parent to pay any [***] Milestone Consideration, [***] Milestone Consideration hereunder shall be qualified in its entirety by the right of Parent to set off, subject to the express limitations set forth in this **Article 9** and solely on a dollar-for-dollar basis, the amount of any such [***] Milestone Consideration or [***] Milestone Consideration at the time that such [***] Milestone Consideration or [***] Milestone Consideration, as the case may be, becomes payable, by the aggregate amount of any Payable Claims as of the date on which the [***] Milestone Consideration or [***] Milestone Consideration, as the case may be, shall otherwise be payable hereunder and not yet paid or otherwise satisfied, with the remaining portion of such [***] Milestone Consideration or [***] Milestone Consideration, as the case may be, payable to the Company Securityholders in accordance with this Agreement. Such set off for any [***] Milestone Consideration shall be in the form of cash or cash and shares of the Parent Common Stock, as applicable.

9.5 Escrow Arrangements.

(a) Escrow Fund. At the Closing, Parent will deposit the Escrow Amount with the Escrow Agent, without any act of the Company Securityholders, such deposit of the Escrow Amount to be held in escrow by the Escrow Agent pursuant to the terms and conditions of this Agreement and the Escrow Agreement and to constitute an escrow fund to be governed by the terms set forth in the Escrow Agreement.

(b) Satisfaction of Claims.

(i) If payment is to be made to any Indemnified Party from the Escrow Fund pursuant to **Section 9.4(f)(i)**, Parent and the Securityholder Representative shall promptly deliver joint written instructions to the Escrow Agent directing the Escrow Agent to release from the Escrow Fund to the applicable Indemnified Party the amount of cash so payable.

(ii) If payment is to be made to Company Securityholders from the Escrow Fund pursuant to **Section 9.4(f)(iii)** or the last sentence of **Section 9.4(f)(iv)**, Parent and the Securityholder Representative shall promptly deliver joint written instructions to the Escrow Agent directing the Escrow Agent to release to the applicable Company Securityholders the amount of cash so payable.

9.6 Third Party Claims. If a Parent Indemnified Party becomes aware of the assertion or commencement of any action, suit, claim or other legal proceeding made or brought by any Person who is not a party to this Agreement or an Affiliate of a party to this Agreement or a representative of the foregoing (a "**Third Party Claim**") which such Parent Indemnified Party reasonably believes may, if adversely determined, result in a claim for indemnification by any Parent Indemnified Party pursuant to this **Article 9**, such Parent Indemnified Party shall notify the Securityholder Representative promptly of such claim in writing, and the Securityholder Representative shall be entitled on behalf of the Company Securityholders,

at their expense, to participate in, but not to determine or conduct, the defense of such Third Party Claim. Such notice by the Parent Indemnified Party shall describe the Third Party Claim in reasonable detail, shall include copies of all material written evidence thereof and shall indicate the estimated amount, if reasonably practicable, of the Loss that has been or may be sustained by the Parent Indemnified Party. The failure to give such prompt written notice shall not, however, relieve the Indemnifying Holders of their indemnification obligations, except and only to the extent that the Securityholder Representative or any Indemnifying Holder forfeits rights or defenses by reason of such failure. The Parent Indemnified Party shall have the right in its sole discretion to conduct the defense of, and to settle, any such claim and the Securityholder Representative and the Company Securityholders shall not have a right of approval or consent with respect to any such Third Party Claim; *provided*, that except with the prior written consent of the Securityholder Representative (which may be withheld in Securityholder Representative's sole discretion), no settlement of any such Third Party Claim with third party claimants shall be determinative of the right of indemnification for Losses in respect of such Third Party Claim under this **Article 9** or the amount of Losses relating to such matter. If the Securityholder Representative has consented to any such settlement, the Company Securityholders and the Indemnifying Holders shall have no power or authority to object under any provision of this **Article 9** to the amount of such settlement to which the Securityholder Representative expressly consented constituting a Payable Claim. [***].

If the Securityholder Representative (on behalf of any Company Indemnified Party) becomes aware of the assertion or commencement of any action, suit, claim or other legal proceeding made or brought by any Person who is not a party to this Agreement or an Affiliate of a party to this Agreement or a representative of the foregoing (a "**Company Third Party Claim**") which the Securityholder Representative reasonably believes may, if adversely determined, result in a claim for indemnification by any Company Indemnified Party pursuant to this **Article 9**, the Securityholder Representative shall notify Parent promptly of such claim in writing, and the Securityholder Representative shall be entitled on behalf of the Company Indemnified Parties, at their expense, to participate in, but not to determine or conduct, the defense of such Company Third Party Claim. Such notice by the Securityholder Representative shall describe the Company Third Party Claim in reasonable detail, shall include copies of all material written evidence thereof and shall indicate the estimated amount, if reasonably practicable, of the Loss that has been or may be sustained by the Company Indemnified Party. The failure to give such prompt written notice shall not, however, relieve the Parent of its indemnification obligations, except and only to the extent that the Parent forfeits rights or defenses by reason of such failure. Parent shall have the right in its sole discretion to conduct the defense of, and to settle, any such claim and the Securityholder Representative and the Company Securityholders shall not have a right of approval or consent with respect to any such Company Third Party Claim; *provided*, that except with the prior written consent of the Securityholder Representative (which may be withheld in Securityholder Representative's sole discretion), no settlement of any such Company Third Party Claim with third party claimants shall be determinative of the amount of Losses in respect of such Company Third Party Claim under this **Article 9** or the right of indemnification for Losses relating to such matter; and *provided*, *further*, that Parent shall not, without the prior written consent of the Securityholder Representative (which may be withheld in Securityholder Representative's sole discretion), settle or compromise any Company Third Party Claim or permit a default or consent to entry of any judgment; *provided*, *however*, that the prior written consent of the Securityholder Representative pursuant to the immediately preceding proviso shall not be required if such settlement, compromise or judgement creates no liability or obligation on the part of any such Company Indemnified Party and provides, in customary form, for the unconditional release of any such Company Indemnified Party from all liabilities and obligations in connection with such Company Third Party Claim.

9.7 Securityholder Representative.

(a) By virtue of the approval of this Agreement by the Company Securityholders and without any further action of any of the Company Securityholders or the Company, each Company

Securityholder irrevocably approves the constitution and appointment of Shareholder Representative Services LLC as the Securityholder Representative, with all the rights, powers and obligations contemplated by this **Section 9.7**, and any successor Securityholder Representative(s) designated under this **Section 9.7**, as the sole, exclusive, true and lawful agent, representative and attorney-in-fact, with full power of substitution, for and on behalf of all the Company Securityholders, and each of them, with respect to any and all matters in connection with or arising out of this Agreement or any Related Agreement following the Closing (including in connection with the Escrow Agreement, the Securityholder Representative Engagement Agreement and any other Related Agreement to which the Company is a party), including for purposes of taking any action or omitting to take action on behalf of all the Company Securityholders or each of them hereunder. The powers, immunities and rights to indemnification granted to the Securityholder Representative Group hereunder: (i) are coupled with an interest and shall be irrevocable and survive the death, incompetence, bankruptcy or liquidation of any Company Securityholder and shall be binding on any successor thereto, and (ii) shall survive the delivery of an assignment by any Company Securityholder of the whole or any fraction of his, her or its interest in the Escrow Fund or any Milestone Consideration. All actions, notices, communications and determinations by or on behalf of the Company Securityholders in accordance herewith shall be given or made by the Securityholder Representative and all such actions, notices, and determinations by the Securityholder Representative shall conclusively be deemed to have been authorized by, and shall be binding upon, any and all Company Securityholders and their successors as if expressly confirmed and ratified in writing by the Company Securityholders, and all defenses which may be available to any Company Securityholder to contest, negate or disaffirm the action of the Securityholder Representative taken in good faith under this Agreement, the Escrow Agreement or the Securityholder Representative Engagement Agreement are waived.

(b) Without limiting the generality of the foregoing, from and after the Closing, the Securityholder Representative shall have full power and authority (a) to negotiate and sign all documents in connection with the transactions contemplated hereby, (b) to grant, provide, negotiate and sign all waivers, amendments, consents, instructions and authorizations and to take all other actions or exercise any rights called for under or contemplated by or that may otherwise be necessary or appropriate in connection with this Agreement or any of the foregoing agreements or instruments, (c) to prosecute, defend and settle in the Securityholder Representative's discretion all indemnification disputes (including hiring counsel and other litigation assistance) and all actions for enforcement or defense of Securityholder Representative's and/or Company Securityholders' rights and remedies hereunder, including with respect to specific performance under **Section 11.6**, and (d) to receive all notices, requests and demands that may be made under and pursuant to this Agreement or in connection herewith. Notwithstanding the foregoing, the Securityholder Representative shall have no obligation to act on behalf of the Company Securityholders, except as expressly provided herein, in the Escrow Agreement and in the Securityholder Representative Engagement Agreement, and for purposes of clarity, there are no obligations of the Securityholder Representative in any ancillary agreement, schedule, exhibit or the Company Disclosure Schedules. From and after the Closing, Parent shall be entitled to deal exclusively with the Securityholder Representative in respect of any matter arising under this Agreement or any Related Agreement to which the Company is a party and the Company Securityholders shall be bound by all actions taken by the Securityholder Representative in connection with such matters. The Securityholder Representative shall be entitled to: (i) rely upon the Spreadsheet, (ii) rely upon any signature believed by it to be genuine, and (iii) reasonably assume that a signatory has proper authorization to sign on behalf of the applicable Company Securityholder or other party.

(c) Should the Securityholder Representative die, become legally incapacitated or bankrupt, dissolve, liquidate, resign or otherwise similarly be unable or unwilling to serve, Company Securityholder(s) representing more than 50% of the Pro Rata Share (the "**Stockholders' Majority**"), shall designate in writing to Parent within five (5) Business Days a single Person to replace the deceased or legally incapacitated or resigned or otherwise similarly unable Securityholder Representative as the successor Securityholder Representative hereunder. If at any time there shall not be a Securityholder

Representative and a Stockholders' Majority fails to designate in writing a successor Securityholder Representative within five (5) Business Days after receipt of a written request delivered by Parent to the Stockholders' Majority requesting that a successor Securityholder Representative be designated, then Parent may petition a court of competent jurisdiction to appoint a new Securityholder Representative hereunder. The immunities and rights to indemnification shall survive the resignation or removal of the Securityholder Representative or any member of the Advisory Group and the Closing and/or any termination of this Agreement and the Escrow Agreement.

(d) At the Closing in accordance with **Section 2.14**, the Expense Fund shall be deposited into an account designated by the Securityholder Representative and held in accordance with the terms of this **Section 9.7(d)**. The Securityholder Representative will hold these funds separate from its corporate funds and will not voluntarily make these funds available to its creditors in the event of bankruptcy. The Expense Fund shall be held by the Securityholder Representative to be used by the Securityholder Representative solely (i) to pay for or reimburse any reasonable Securityholder Representative Expenses incurred by the Securityholder Representative, or to indemnify the Securityholder Representative for any liabilities incurred by the Securityholder Representative, in performing its duties in connection with or arising out of this Agreement, the Escrow Agreement or the Securityholder Representative Engagement Agreement, or (ii) as otherwise determined by the Advisory Group. The Securityholder Representative is not providing any investment supervision, recommendations or advice and shall have no responsibility or liability for any loss of principal of the Reserve other than as a result of its gross negligence or willful misconduct. The Securityholder Representative is not acting as a withholding agent or in any similar capacity in connection with the Expense Fund and has no tax reporting or income distribution obligations. The Company Securityholders will not receive any interest or earnings on the Expense Fund and irrevocably transfer and assign to the Securityholder Representative any ownership right that they may otherwise have had in any such interest or earnings. Subject to Advisory Group approval, the Securityholder Representative may contribute funds to the Expense Fund from any consideration otherwise distributable to the Company Securityholders. All of the costs and expenses incurred by the Securityholder Representative in connection with this Agreement shall be payable by the Company Securityholders, initially out of the Expense Fund. As soon as practicable following the completion of the Securityholder Representative's responsibilities, the Securityholder Representative will deliver any remaining balance of the Expense Fund to the Parent for further distribution to the Company Securityholders (provided, that amounts payable in respect of Company Options shall be paid to the former holders of Company Options, subject to applicable withholding). For U.S. federal income tax purposes, the Expense Fund will be treated as having been received and voluntarily set aside by the Company Securityholders at the time of Closing.

(e) Certain Company Securityholders have entered into an engagement agreement (the "**Securityholder Representative Engagement Agreement**") with the Securityholder Representative to provide direction to the Securityholder Representative in connection with its services under this Agreement, the Escrow Agreement and the Securityholder Representative Engagement Agreement (such Company Securityholders, including their individual representatives, collectively hereinafter referred to as the "**Advisory Group**"). Neither the Securityholder Representative nor any of its members, managers, directors, officers, contractors, agents and employees nor any member of the Advisory Group, solely in such Advisory Group members' capacity as such, (collectively, the "**Securityholder Representative Group**") shall be liable to the Company Securityholders for any act done or omitted in connection herewith or any agreements ancillary hereto by the Securityholder Representative or the Advisory Group, respectively, unless caused by, in the case of the Securityholder Representative, the Securityholder Representative's willful misconduct, bad faith or gross negligence, or in the case of the Advisory Group, such Advisory Group's willful misconduct, bad faith or gross negligence. The Securityholder Representative shall not be liable for any action or omission pursuant to the advice of counsel. Parent shall not be liable to the Company Securityholders for any act done or omitted hereunder by the Securityholder Representative.

(f) The Company Securityholders shall indemnify and defend the Securityholder Representative Group and hold the Securityholder Representative Group harmless against its Pro Rata Share of any loss, liability, deficiency, damage, cost, expense, claim, fee, judgment, fine, amount paid in settlement or actions incurred by the Securityholder Representative and arising out of or in connection with the acceptance, performance or administration of the Securityholder Representative's duties under this Agreement (including, to the extent applicable, the Escrow Agreement, the Securityholder Representative Engagement Agreement or any other Related Agreement to which the Company is a party), including the reasonable fees and expenses of any legal counsel, accountants, auditors and other advisors and skilled professionals retained by the Securityholder Representative and in connection with seeking recovery from insurers (collectively, the "**Securityholder Representative Expenses**"), in each case as such Securityholder Representative Expense is suffered or incurred; provided, that in the event that any such Securityholder Representative Expense is finally adjudicated to have been caused by the gross negligence or willful misconduct of the Securityholder Representative, the Securityholder Representative will reimburse the Company Securityholders the amount of such indemnified Securityholder Representative Expense to the extent attributable to such gross negligence or willful misconduct. Without limiting any remedy of the Securityholder Representative with respect to such Securityholder Representative Expenses, as aforesaid, the Securityholder Representative shall have recourse, first, against the Expense Fund, second, against any Milestone Consideration or any portion of the Escrow Fund required to be distributed to the Company Securityholders hereunder prior to any distribution thereof to the Company Securityholders, and third, directly from the Company Securityholders; *provided*, that while the Securityholder Representative may be paid from the aforementioned sources of funds, this does not relieve the Company Securityholders from their obligation to promptly pay such Securityholder Representative Expenses as they are suffered or incurred. In no event will the Securityholder Representative be required to advance its own funds on behalf of the Company Securityholders or otherwise. Furthermore, the Securityholder Representative shall not be required to take any action unless the Securityholder Representative has been provided with funds, security or indemnities which, in its determination, are sufficient to protect the Securityholder Representative against the costs, expenses and liabilities which may be incurred by the Securityholder Representative in performing such actions. Notwithstanding anything in this Agreement to the contrary, any restrictions or limitations on liability or indemnification obligations of, or provisions limiting the recourse against non-parties otherwise applicable to, the Company Securityholders set forth elsewhere in this Agreement are not intended to be applicable to the indemnities provided to the Securityholder Representative hereunder. The foregoing indemnities will survive the Closing, the resignation or removal of the Securityholder Representative or the termination of this Agreement.

9.8 Tax Treatment. Any payment under **Section 2.9(d)** or **Article 9** of this Agreement shall be treated by the parties for U.S. federal, state, local and non-U.S. income Tax purposes as a purchase price adjustment unless otherwise required by applicable law.

[***]

9.9 Parent Indemnity.

(a) By virtue of the Merger, subject to the provisions of this **Article 9**, from and after the consummation of the Merger, Parent shall indemnify and hold harmless each Company Securityholder and their respective Affiliates (other than Persons who are Affiliates as a result of holding Company Capital Stock prior to the Effective Time), representatives, successors and permitted assigns (collectively, the "**Company Indemnified Parties**") harmless from and against, and shall compensate and reimburse the Company Indemnified Parties for, all Losses incurred by the Company Indemnified Parties, or any of them, to the extent arising under, in connection with or as a result of the following:

(i) any breach of a representation or warranty of Parent or either Merger Sub contained in (A) **Article 4** of this Agreement, (B) any Related Agreement or (C) any Parent Certificate; or

(ii) any Taxes of the Company other than Pre-Closing Taxes.

ARTICLE 10

TERMINATION, AMENDMENT AND WAIVER

10.1 [Reserved].

10.2 [Reserved].

10.3 Amendment. This Agreement may be amended at any time prior to the Effective Time by the parties hereto, by action taken or authorized by their respective boards of directors, whether before or after adoption of this Agreement by the stockholders of the Company or Merger Sub; *provided*, that after any such stockholder adoption of this Agreement, no amendment shall be made to this Agreement that by law requires further approval or authorization by the stockholders of the Company or Merger Sub without such further approval or authorization. This Agreement may not be amended, except by an instrument in writing signed by the parties hereto. For purposes of resolution of disputes and other matters between any Indemnified Parties and one or more Company Securityholders after the Effective Time under **Article 9** or otherwise, it is understood that the Securityholder Representative shall have the authority to bind all the Company Securityholders.

10.4 Extension; Waiver. At any time prior to the Closing, Parent, on the one hand, and the Company, on the other hand, may, to the extent legally allowed, (a) extend the time for the performance of any of the obligations of the other party hereto, (b) waive any inaccuracies in the representations and warranties made to such party contained herein or in any document delivered pursuant hereto, and (c) waive compliance with any of the covenants, agreements or conditions for the benefit of such party contained herein. Any agreement on the part of a party hereto to any such extension or waiver shall be valid only if set forth in an instrument in writing signed on behalf of such party. For purposes of this **Section 10.4**, the Company Stockholders agree that any extension or waiver signed by the Securityholder Representative after the Closing shall be binding upon and effective against all Company Stockholders whether or not they have signed such extension or waiver. No delay or failure by any party to assert any of its rights or remedies shall constitute a waiver of such rights or remedies.

ARTICLE 11

GENERAL PROVISIONS

11.1 Notices. All notices and other communications hereunder shall be in writing and shall be deemed delivered, given and received (a) when delivered in person, (b) when transmitted by email or facsimile (with written confirmation of completed transmission), (c) on the third (3rd) Business Day following the mailing thereof by certified or registered mail (return receipt requested) or (d) when delivered by an express courier (with written confirmation of delivery) to the parties hereto at the following addresses (or to such other address or facsimile number as such party may have specified in a written notice given to the other parties):

(a) if to Parent or the Surviving Corporation, to:

Intellia Therapeutics, Inc.
40 Erie Street, Suite 130
Cambridge, MA 02139
[***]

with a copy (which shall not constitute notice) to:

Goodwin Procter LLP
100 Northern Avenue
Boston, MA 02210
[***]

(b) if to the Company, to:

Rewrite Therapeutics, Inc.
1250 Powell St. Apt 4
Emeryville, CA 94608
[***]

and, if on or before the Closing Date, with a copy (which shall not constitute notice) to:

Arnold & Porter Kaye Scholer LLP
Three Embarcadero Center, 10th Floor
San Francisco, CA 9411104024
[***]

(c) if to the Securityholder Representative, to:

Shareholder Representative Services LLC
950 17th Street, Suite 1400
Denver, CO 80202
[***]

with a copy (which shall not constitute notice) to:

Arnold & Porter Kaye Scholer LLP
Three Embarcadero Center, 10th Floor
San Francisco, CA 9411104024
[***]

(d) If to a Company Stockholder, to his, her or its address and facsimile on the Spreadsheet.

11.2 Interpretation. Unless a clear contrary intention appears: (a) the singular number shall include the plural, and vice versa; (b) reference to any gender includes each other gender; (c) reference to any agreement, document or instrument means such agreement, document or instrument as amended or modified and in effect from time to time in accordance with the terms thereof; (d) "include" and "including," and variations thereof, shall not be deemed to be terms of limitation, but rather shall be deemed to be followed by the words "without limitation"; (e) all references in this Agreement to "Schedules," "Sections," "Annexes" and "Exhibits" are intended to refer to Schedules, Sections, Annexes and Exhibits to this Agreement, except as otherwise indicated; (f) the table of contents and headings in this Agreement are for convenience of reference only, shall not be deemed to be a part of this Agreement, and shall not be referred to in connection with the construction or interpretation of this Agreement; (g) "or" is used in the inclusive sense of "and/or"; (h) with respect to the determination of any period of time, "from" means "from and including" and "to" means "to but excluding"; (i) "hereunder," "hereof," "hereto," and words of similar import shall be deemed references to this Agreement as a whole and not to any particular Article, Section or other provision hereof; (j) "shall" and "will" are to be interpreted to have the same meaning hereunder;

and (k) all references to "this Agreement" include this Agreement and all Schedules, Annexes and Exhibits thereto.

11.3 Counterparts. This Agreement may be executed in one or more counterparts, all of which shall be considered one and the same agreement and shall become effective when one or more counterparts have been signed by each of the parties and delivered to the other party, it being understood that all parties need not sign the same counterpart. Until and unless each party has received a counterpart hereof signed by the other party hereto, this Agreement shall have no effect and no party shall have any right or obligation hereunder (whether by virtue of any other oral or written agreement or other communication). Any signature page delivered electronically or by facsimile (including transmission by Portable Document Format or other fixed image form) shall be binding to the same extent as an original signature page.

11.4 Entire Agreement; Assignment. This Agreement, the exhibits and annexes hereto, the Company Disclosure Schedule, Schedule I, the other schedules and the Related Agreements and the NDA: (a) constitute the entire agreement among the parties with respect to the subject matter hereof and supersede all prior agreements and understandings both written and oral (including the Letter of Intent, any letter of intent, term sheet or related discussions), among the parties with respect to the subject matter hereof, and (b) shall not be assigned by operation of law or otherwise, except (1) that Parent may assign its rights and delegate its obligations hereunder in their entirety (i) to a successor-in-interest of Parent by reason of merger or consolidation or sale of all or substantially all of the assets of Parent (provided that, as a condition to such assignment, such successor-in-interest shall expressly assume and agree to perform, by written agreement delivered to the Securityholder Representative, all of Parent's liabilities, obligations and covenants hereunder in full); (ii) to one or more of its wholly owned and controlled Affiliates or (iii) any commercial lender of Parent or its Affiliates as collateral security in any financing transaction involving debt for borrowed money provided that no such assignment shall relieve Parent of any of its liabilities, obligations or covenants hereunder; and (2) any Company Securityholder who is an individual may assign its rights and delegate its obligations hereunder in their entirety on death by will or intestacy.

11.5 Severability. If any provision of this Agreement or the application thereof, becomes or is declared by a court of competent jurisdiction to be illegal, void or unenforceable, the remainder of this Agreement will continue in full force and effect and the application of such provision to other Persons or circumstances will be interpreted so as reasonably to effect the intent of the parties hereto. The parties further agree to replace such void or unenforceable provision of this Agreement with a valid and enforceable provision that will achieve, to the extent possible, the economic, business and other purposes of such void or unenforceable provision.

11.6 Specific Performance. The parties agree that irreparable damage would occur if any provision of this Agreement were not performed in accordance with the terms hereof and that the parties shall be entitled to specific performance of the terms hereof, in addition to any other remedy to which they are entitled at law or in equity.

11.7 Submission to Jurisdiction; Consent to Service of Process.

(a) Except for a determination of the Closing Net Debt Amount, which shall be resolved exclusively by the Firm pursuant to **Section 2.9**, all disputes, claims, or controversies arising out of or relating to the Agreement, the Related Agreements (other than as expressly set forth therein) or any other agreement or document executed and delivered pursuant to the Agreement (other than as expressly set forth therein) or the negotiation, breach, validity or performance hereof and thereof or the transactions contemplated hereby and thereby, including claims of Fraud or fraud in the inducement, and including as well the determination of the scope or applicability of this forum selection provision, shall be resolved solely and exclusively in the federal and state courts in each case located in the City of Wilmington in the State of Delaware.

(b) EACH PARTY IRREVOCABLY SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE FEDERAL AND STATE COURTS IN EACH CASE LOCATED IN THE CITY OF WILMINGTON IN THE STATE OF DELAWARE IN ANY SUCH SUIT, ACTION OR PROCEEDING. SERVICE OF PROCESS, SUMMONS, NOTICE OR OTHER DOCUMENT BY MAIL TO SUCH PARTY'S ADDRESS SET FORTH HEREIN SHALL BE EFFECTIVE SERVICE OF PROCESS FOR ANY SUIT, ACTION OR OTHER PROCEEDING BROUGHT IN ANY SUCH COURT. THE PARTIES IRREVOCABLY AND UNCONDITIONALLY WAIVE ANY OBJECTION TO THE LAYING OF VENUE OF ANY SUIT, ACTION OR ANY PROCEEDING IN SUCH COURTS AND IRREVOCABLY WAIVE AND AGREE NOT TO PLEAD OR CLAIM IN ANY SUCH COURT THAT ANY SUCH SUIT, ACTION OR PROCEEDING BROUGHT IN ANY SUCH COURT HAS BEEN BROUGHT IN AN INCONVENIENT FORUM.

(c) Each of the parties hereto hereby consents to process being served by any party to this Agreement in any suit, action or proceeding by delivery of a copy thereof in accordance with the provisions of **Section 11.1**.

11.8 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware, regardless of the Laws that might otherwise govern under applicable principles of conflicts of laws thereof.

11.9 WAIVER OF JURY TRIAL. EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES ALL RIGHT TO TRIAL BY JURY AND ANY ACTION, PROCEEDING OR COUNTERCLAIM (WHETHER BASED ON CONTRACT, TORT, OR OTHERWISE) ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE ACTIONS OF ANY PARTY HERETO IN NEGOTIATION, ADMINISTRATION, PERFORMANCE OR ENFORCEMENT HEREOF.

11.10 Rules of Construction. The parties hereto agree that they have been represented by counsel during the negotiation and execution of this Agreement and, therefore, waive the application of any Law, regulation, holding or rule of construction providing that ambiguities in an agreement or other document will be construed against the party drafting such agreement or document.

11.11 No Third Party Beneficiary. Notwithstanding anything contained in this Agreement to the contrary, nothing in this Agreement, expressed or implied, is intended to confer on any Person other than the parties hereto or their respective successors and assigns any rights, remedies, or Liabilities under or by reason of this Agreement except that (i) **Article 9** shall also be for the benefit of the Parent Indemnified Parties (with respect to **Section 9.2**) and the Company Indemnified Parties (with respect to **Section 9.9**), (ii) **Section 6.13**, from and after (and subject to the occurrence of) the Effective Time, shall be for the benefit of the D&O Indemnified Parties, and (iii) **Section 11.13** shall be for the benefit of each Securityholder Group Law Firm.

11.12 Costs and Expenses. Except as otherwise expressly set forth herein, each party shall each be responsible for its own fees, costs and expenses (including legal and other fees and expenses) in connection with all aspects of the transactions contemplated hereby.

11.13 Conflict Waiver; Attorney-Client Privilege.

(a) Each of the parties hereto acknowledges and agrees, on its own behalf and on behalf of its directors, members, shareholders, partners, officers, employees and Affiliates, that:

(i) Each of Arnold & Porter Kaye Scholer LLP and Wilson, Sonsini, Goodrich & Rosati LLP has acted as counsel to (A) the Company and (B) the Company Securityholders and the Securityholder Representative (acting on behalf of the Company Securityholders) and their respective Affiliates (collectively, the "**Securityholder Group**"), in connection with the negotiation, preparation, execution and delivery of this Agreement and the consummation of the transactions contemplated hereby. Parent agrees, and shall cause the Company and Merger Sub to agree, that, following

consummation of the transactions contemplated hereby, such representation and any prior representation of the Company by Arnold & Porter Kaye Scholer LLP (or any successor) and/or Wilson, Sonsini, Goodrich & Rosati LLP (or any successor) (each a "**Securityholder Group Law Firm**") shall not preclude either Securityholder Group Law Firm from serving as counsel to the Securityholder Group or any director, member, shareholder, partner, officer or employee of the Securityholder Group, in connection with any litigation, claim or obligation arising out of or relating to this Agreement, any Related Agreement or Certificate or the transactions contemplated hereby or thereby.

(ii) Parent shall not, and shall cause the Company, the Surviving Corporation and the Surviving Corporation not to, seek or have any Securityholder Group Law Firm disqualified from any such representation based on the prior representation of the Company by such Securityholder Group Law Firm. Each of the parties hereto hereby consents thereto and waives any conflict of interest arising from such prior representation, and each of such parties shall cause any of its Affiliates to consent to waive any conflict of interest arising from such representation. Each of the parties acknowledges that such consent and waiver is voluntary, that it has been carefully considered, and that the parties have consulted with counsel or have been advised they should do so in connection herewith. The covenants, consent and waiver contained in this **Section 11.13** shall not be deemed exclusive of any other rights to which any Securityholder Group Law Firm is entitled whether pursuant to law, contract or otherwise.

(b) All communications between the Securityholder Group or the Company, on the one hand, and any Securityholder Group Law Firm, on the other hand, and all communication between the Securityholder Group Law Firms (whether or not including the Securityholder Group or the Company), in each case relating to the negotiation, preparation, execution and delivery of this Agreement, any Related Agreement or any Certificate and the performance of the Company or any member of the Securityholder Group of any of its, his or her obligations hereunder or thereunder and the consummation of the transactions contemplated hereby and thereby (the "**Privileged Communications**") shall be deemed to be attorney-client privileged and the expectation of client confidence relating thereto shall belong solely to the Securityholder Group and shall not pass to or be claimed by Parent, the Company, the Surviving Corporation or the Surviving Corporation (each, a "**Parent Group Company**"). Accordingly, each Parent Group Company shall not have access to any Privileged Communications or to the files of any Securityholder Group Law Firm relating to such engagement from and after Closing and may not use or rely on any Privileged Communications in any claim, dispute, action, suit or proceeding against or involving any of the Securityholder Group. Without limiting the generality of the foregoing, from and after the Closing, (i) the Securityholder Group (and not any Parent Group Company) shall be the sole holders of the attorney-client privilege with respect to such engagement, and no Parent Group Company shall be a holder thereof, (ii) to the extent that files of any Securityholder Group Law Firm in respect of such engagement constitute property of the client, only the Securityholder Group (and no Parent Group Company) shall hold such property rights and (iii) no Securityholder Group Law Firm shall have any duty whatsoever to reveal or disclose any such attorney-client communications or files to any Parent Group Company by reason of any attorney-client relationship between any such Securityholder Group Law Firm and the Company or otherwise. Notwithstanding the foregoing, in the event that a dispute arises between Parent or its Affiliates (including any Parent Group Company), on the one hand, and a third party other than any of the Securityholder Group, on the other hand, Parent and its Affiliates (including any Parent Group Company) may assert the attorney-client privilege to prevent disclosure of confidential communications to such third party; *provided, however*, that neither Parent nor any of its Affiliates (including any Parent Group Company) may waive such privilege without the prior written consent of the Securityholder Representative, which consent shall not be unreasonably withheld, conditioned or delayed. In the event that Parent or any of its Affiliates (including any Parent Group Company) is legally required by governmental order or otherwise legally required to access or obtain a copy of all or a portion of the Privileged Communications, to the extent (x) permitted by applicable Law, and (y) advisable in the opinion of Parent's counsel, then Parent shall immediately (and, in any event, within three (3) Business Days) notify Securityholder Representative in writing so that Securityholder Representative can seek a protective order.

(c) This **Section 11.13** is intended for the benefit of, and shall be enforceable by, each Securityholder Group Law Firm. This Section shall be irrevocable, and no term of this Section may be amended, waived or modified, without the prior written consent of each Securityholder Group Law Firm.

[*Remainder of page intentionally left blank****]***

IN WITNESS WHEREOF, Parent, Merger Sub, the Company and the Securityholder Representative have caused this Agreement to be signed, all as of the date first written above.

INTELLIA THERAPEUTICS, INC

By: /s/ John Leonard
Name: John Leonard
Title: President and Chief Executive Officer

REWRITE THERAPEUTICS, INC.

By: /s/ Schaked Halperin
Name: Schaked Halperin
Title: CEO

RW ACQUISITION CORP.

By: /s/ Derek Hicks
Name: Derek Hicks
Title: President

SHAREHOLDER REPRESENTATIVE SERVICES LLC, solely in its capacity as the Securityholder Representative

By: /s/ Sam Riffe
Name: Sam Riffe
Title: Managing Director

Exhibit 10.29

LEASE AGREEMENT

THIS LEASE AGREEMENT (this "**Lease**") is made this ___22__ day of February, 2022, between **ARE-WINTER STREET PROPERTY, LLC**, a Delaware limited liability company ("**Landlord**"), and **INTELLIA THERAPEUTICS, INC.**, a Delaware corporation ("**Tenant**").

Building: That certain to-be-renovated 3-story building located at 840 Winter Street, Waltham, Massachusetts.

Premises: Those portions of the first, second and third floors of the Building, commonly known as Suite 100, containing approximately 139,984 rentable square feet, subject to re-measurement as set forth in Section 5 below, as shown on **Exhibit A**.

Project: The real property on which the Building in which the Premises are located, together with all improvements thereon and appurtenances thereto as described on **Exhibit B**.

Base Rent: Initially, $73.50 per rentable square foot of the Premises per year, subject to adjustment pursuant to Section 4 hereof.

Rentable Area of Premises: 139,984 sq. ft.

Rentable Area of Building and Project: 168,214 sq. ft.

Tenant's Share of Operating Expenses: 83.22%

Security Deposit: $6,001,814.00, subject to adjustment pursuant to Section 6.

Target Commencement Date: April 19, 2024

Rent Adjustment Percentage: 3%

Base Term: Beginning on the Commencement Date and ending 144 months from the first day of the first full month following the Commencement Date. For clarity, if the Commencement Date occurs on the first day of a month, the expiration of the Base Term shall be measured from that date. If the Commencement Date occurs on a day other than the first day of a month, the expiration of the Base Term shall be measured from the first day of the following month.

Permitted Use: Life sciences research and development laboratory, manufacturing, general office, related mechanical space and other ancillary uses consistent with the character of the Project and otherwise in compliance with the provisions of Section 7 hereof.

Address for Rent Payment:
ARE-Winter Street Property, LLC
P.O. Box 22547
New York, NY 10087-2547

Landlord's Notice Address:
26 North Euclid Avenue
Pasadena, CA 91101
Attention: Corporate Secretary

Tenant's Notice Address
40 Erie Street
Cambridge, Massachusetts 02139
Attention: Chief Financial Officer

With a copy to:

Intellia Therapeutics, Inc.
20 Erie Street
Cambridge, Massachusetts 02139
Attention: Legal Department

As a courtesy, copies of notices provided by Landlord to Tenant under this Lease shall be sent to Glenn.Goddard@intelliatx.com and to ntlanotice@intelliatx.com.

The following Exhibits are attached hereto and incorporated herein by this reference:

[X] **EXHIBIT A** - PREMISES DESCRIPTION [X] **EXHIBIT B** - DESCRIPTION OF PROJECT
[X] **EXHIBIT C** - WORK LETTER [X] **EXHIBIT D** - COMMENCEMENT DATE
[X] **EXHIBIT E** - RULES AND REGULATIONS [X] **EXHIBIT F** - TENANT'S PERSONAL PROPERTY
[X] **EXHIBIT G** - BUILDING SIGN LOCATION

1. **Lease of Premises**. Upon and subject to all of the terms and conditions hereof, Landlord hereby leases the Premises to Tenant and Tenant hereby leases the Premises from Landlord. The portions of the Project which are for the non-exclusive use of tenants of the Project are collectively referred to herein as the "**Common Areas**." The Common Areas shall include, without limitation, any amenities now or hereafter located in, on or otherwise serving the Project, if any, as may exist from time to time (as determined by Landlord, in Landlord's sole and absolute discretion) and made available, except for temporary interruptions and/or Force Majeure (as defined in Section 34), for use by Tenant and/or one or more other tenants of the Project and/or third parties (each, a "**Project Amenity**" and collectively, the "**Project Amenities**"). Tenant shall have the non-exclusive right during the Term to the Common Areas along with others having the right to use the Common Areas. The Common Areas shall include, without limitation, (i) public or common lobbies, hallways, stairways, elevators, walkways, corridors and elevator lobbies, (ii) common chases and conduits, (iii) common mechanical and utility rooms, (iv) common bathrooms, (v) common driveways, parking areas and loading areas, (vi) pedestrian sidewalks, (vii) landscaped areas, and (viii) trash enclosures. Landlord reserves the right to modify Common Areas, provided that such modifications do not materially adversely affect Tenant's use of the Premises for the Permitted Use. From and after the Commencement Date through the expiration of the Term, Tenant shall have access to the Building and the Premises 24 hours a day, 7 days a week, except in the case of emergencies, as the result of Legal Requirements, the performance by Landlord of any installation, maintenance or repairs, or any other temporary interruptions, and otherwise subject to the terms of this Lease.

In addition, if the Premises ever consists of the entire rentable area of the Building pursuant to Section 39 and/or Section 40, Landlord shall have the right to require Tenant (and Tenant shall, promptly after Landlord's request to do so) execute an amendment to the Lease in a commercially reasonable form reasonably acceptable to Tenant and Landlord, and prepared by Landlord to address, among other things, matters associated with converting the Building from a multi-tenant building to a single-tenant building, including, without limitation, (i) Common Areas, (ii) maintenance and repair responsibilities, (iii) Operating Expenses, (iv) the Building signage (which may be exclusive), (v) allocation of parking and reserved parking spaces, and (vi) rules and regulations.

2. **Delivery; Acceptance of Premises; Commencement Date**. Landlord shall use reasonable efforts to deliver the Premises to Tenant on or before the Target Commencement Date, which shall be free and clear of all tenants and occupants and their possessions, with Landlord's Work Substantially Completed ("**Delivery**" or "**Deliver**"). If Landlord fails to timely Deliver the Premises, Landlord shall not be liable to Tenant for any loss or damage resulting therefrom, and this Lease shall not be void or voidable except as provided herein. Notwithstanding anything to the contrary contained herein, if Landlord fails to Deliver the Premises to Tenant within 30 days after the Target Commencement Date (as such date may be extended by Force Majeure delays and Tenant Delays, the "**Abatement Date**"), Base Rent payable with respect to the Premises shall be abated 1 day for each day after the Abatement Date that Landlord fails to Deliver the

Premises to Tenant. If Landlord does not Deliver the Premises within 180 days of the Target Commencement Date for any reason other than Force Majeure and Tenant Delays, this Lease may be terminated by Tenant by written notice to Landlord, and if so terminated: (a) the Security Deposit, or any balance thereof (i.e., after deducting therefrom all amounts to which Landlord is entitled under the provisions of this Lease), shall be returned to Tenant, and (b) neither Landlord nor Tenant shall have any further rights, duties or obligations under this Lease, except with respect to provisions which expressly survive termination of this Lease. As used herein, the terms "**Landlord's Work**," "**Tenant Delays**" and "**Substantially Completed**" shall have the meanings set forth for such terms in the Work Letter. If Tenant does not elect to void this Lease within 5 business days of the lapse of such 180 day period, such right to void this Lease shall be waived and this Lease shall remain in full force and effect.

The "**Commencement Date**" shall be the earlier of: (i) the date Landlord Delivers the Premises to Tenant with Landlord's Work Substantially Completed; or (ii) the date Landlord could have Delivered the Premises but for Tenant Delays. Upon request of either party, Landlord and Tenant shall execute and deliver a written acknowledgment of the Commencement Date and the expiration date of the Term when such are established in the form of the "Acknowledgement of Commencement Date" attached to this Lease as **Exhibit D**; provided, however, either party's failure to execute and deliver such acknowledgment shall not affect the other party's rights hereunder. The "**Term**" of this Lease shall be the Base Term, as defined above on the first page of this Lease and any Extension Terms which Tenant may elect pursuant to Section 41 hereof.

Landlord and Tenant acknowledge and agree that (w) as of the date of this Lease there exist significant global supply chain delays and shortages of construction materials, supplies and equipment (collectively, "**Supply Chain Delays**"), (x) the availability of fixtures, equipment and/or materials required for the performance and/or Substantial Completion of Landlord's Work (collectively, "**Required Materials**"), may be subject to longer lead times than normally anticipated due to such Supply Chain Delays, (y) the unavailability or delayed delivery of Required Materials may result in disruption to progress of the construction of Landlord's Work in the ordinary course, and (z) the Target Commencement Date shall be delayed for a period equal to the delay in the Substantial Completion of Landlord's Work resulting directly or indirectly from the unavailability or delayed delivery of Required Materials.

Tenant has requested the right to occupy that certain portion of the Premises (the "**Phase 1 Space**") prior to the Commencement Date by the date set forth on the construction schedule attached to the Work Letter as **Schedule 1**, and Landlord has agreed, subject to the terms of the Work Letter, to use reasonable efforts to accelerate the work of the Tenant Improvements in the Phase 1 Space to accommodate Tenant's request. The location of the Phase 1 Space shall be mutually agreed upon by Landlord and Tenant following completion of the Space Plans (as defined in the Work Letter) for the Tenant Improvements. Landlord shall deliver to Phase 1 Space to Tenant upon the Substantial Completion of the Tenant Improvements in the Phase 1 Space (the "**Delivery Date**"). Commencing on the Delivery Date, Tenant shall commence paying Base Rent at the rate of $73.50 per rentable square foot per year plus Operating Expenses with respect to the Phase 1 Space. Tenant acknowledges and agrees that Landlord will continue to perform Landlord's Work in the balance of the Premises while Tenant is occupying Phase 1 Space, that Landlord's completion of Landlord's Work in the balance of the Premises may adversely affect Tenant's use and occupancy of the Phase 1 Space, and that prior to the Substantial Completion of Landlord's Work in the balance of the Premises, there will continue to be construction noise, vibrations and dust associated with Landlord's construction of Landlord's Work in the balance of the Premises; provided however, in the event Tenant reasonably believes that Landlord's Work in the balance of the Premises while Tenant would be occupying Phase 1 Space, would materially and adversely affect Tenant's intended use of the Phase 1 Space, Tenant shall have the right to delay the Delivery Date until such time as the Landlord's Work in the balance of the Premises no longer materially and adversely affects Tenant's intended use of the Phase 1 Space as reasonably determined by Tenant.

In addition to Tenant's early occupancy of the Phase 1 Space pursuant to the immediately preceding paragraph and notwithstanding anything to the contrary contained herein, to the extent that Landlord's Work is Substantially Completed in any portion of the Premises other than the Phase 1 Space (each, a "**Completed Area**") and Tenant's occupancy of such Completed Area will not materially interfere

with Landlord's construction of Landlord's Work in the balance of the Premises, Tenant may elect, by delivery of written notice to Landlord, to occupy such Completed Area prior to the Commencement Date. Tenant shall commence paying Base Rent at the rate of $73.50 per rentable square foot per year plus Operating Expenses with respect to any such Completed Area that Tenant elects to occupy pursuant to the immediately preceding sentence on the date that Landlord delivers such Completed Area to Tenant for Tenant's early occupancy. Tenant acknowledges and agrees that Landlord will continue to perform Landlord's Work in the balance of the Premises while Tenant is occupying such Completed Area(s), that Landlord's completion of Landlord's Work in the balance of the Premises may adversely affect Tenant's use and occupancy of the Completed Area(s), and that prior to the Substantial Completion of Landlord's Work in the balance of the Premises, there will continue to be construction noise, vibrations and dust associated with Landlord's construction of Landlord's Work in the balance of the Premises.

Except as set forth in the Work Letter (including Landlord's obligation thereunder to perform Landlord's Work) or as otherwise expressly set forth in this Lease: (A) Tenant shall accept the Premises in their condition as of the Commencement Date; (B) Landlord shall have no obligation for any defects in the Premises; and (C) Tenant's taking possession of the Premises shall be conclusive evidence that Tenant accepts the Premises and that the Premises were in good condition at the time possession was taken. Any occupancy of the Premises by Tenant before the Commencement Date shall be subject to all of the terms and conditions of this Lease, excluding, so long as Tenant is not operating its business in any portion of the Premises, the obligation to pay Base Rent and Operating Expenses.

For the period of 365 consecutive days after the Commencement Date, Landlord shall, at its sole cost and expense (which shall not constitute an Operating Expense), be responsible for any repairs that are required to be made to the Building Systems (as defined in Section 13), unless Tenant or any Tenant Party was responsible for the cause of such repair, in which case Tenant shall pay the cost.

Tenant agrees and acknowledges that, except as expressly set forth in this Lease, neither Landlord nor any agent of Landlord has made any representation or warranty with respect to the condition of all or any portion of the Premises or the Project, and/or the suitability of the Premises or the Project for the conduct of Tenant's business, and Tenant waives any implied warranty that the Premises or the Project are suitable for the Permitted Use. This Lease constitutes the complete agreement of Landlord and Tenant with respect to the subject matter hereof and supersedes any and all prior representations, inducements, promises, agreements, understandings and negotiations which are not contained herein. Landlord in executing this Lease does so in reliance upon Tenant's representations, warranties, acknowledgments and agreements contained herein.

3. **Rent**.

(a) **Base Rent**. The first full calendar month's Base Rent shall be due and payable concurrently with Tenant's delivery of an executed copy of this Lease to Landlord. Tenant shall pay to Landlord in advance, without demand, abatement, deduction or set-off, equal monthly installments of Base Rent (i.e., 1/12 of the annual Base Rent amount then in effect) on or before the first day of each calendar month during the Term hereof, in lawful money of the United States of America, at the office of Landlord for payment of Rent set forth above, or to such other person or at such other place as Landlord may from time to time designate in writing, or via federally insured wire transfer (including ACH) pursuant to the wire instructions provided by Landlord. Payments of Base Rent for any fractional calendar month shall be prorated. The obligation of Tenant to pay Base Rent and other sums to Landlord and the obligations of Landlord under this Lease are independent obligations. Tenant shall have no right at any time to abate, reduce, or set-off any Rent (as defined in Section 5) due hereunder except for any abatement as may be expressly provided for in this Lease.

(b) **Additional Rent**. In addition to Base Rent, Tenant agrees to pay to Landlord as additional rent ("**Additional Rent**"): (i) commencing on the Commencement Date, Tenant's Share of "Operating Expenses" (as defined in Section 5), and (ii) any and all other amounts Tenant assumes or agrees to pay under the provisions of this Lease, including, without limitation, any and all other sums that may become

due by reason of any default of Tenant or failure to comply with the agreements, terms, covenants and conditions of this Lease to be performed by Tenant, after any applicable notice and cure period.

4. **Base Rent Adjustments**.

(a) **Annual Adjustments**. Base Rent shall be increased on each annual anniversary of the Commencement Date (provided, however, that if the Commencement Date occurs on a day other than the first day of a calendar month, then Base Rent shall be increased on each annual anniversary of the first day of the first full calendar month immediately following the Commencement Date) (each an "**Adjustment Date**") by multiplying the Base Rent payable immediately before such Adjustment Date by the Rent Adjustment Percentage and adding the resulting amount to the Base Rent payable immediately before such Adjustment Date. Base Rent, as so adjusted, shall thereafter be due as provided herein. Base Rent adjustments for any fractional calendar month shall be prorated.

(b) **Additional TI Allowance**. In addition to the Tenant Improvement Allowance (as defined in the Work Letter), Landlord shall, subject to the terms of the Work Letter, make available to Tenant the Additional Tenant Improvement Allowance (as defined in the Work Letter). Commencing on the Commencement Date and continuing thereafter on the first day of each month during the Base Term, Tenant shall pay the amount necessary to fully amortize the portion of the Additional Tenant Improvement Allowance actually funded by Landlord, if any, in equal monthly payments with interest at a rate of 8% per annum over the Base Term, which interest shall begin to accrue on the Commencement Date ("**TI Rent**"). Any TI Rent remaining unpaid as of the expiration or earlier termination of this Lease shall be paid to Landlord in a lump sum at the expiration or earlier termination of this Lease.

(c) **Alterations Allowance**. To the extent that following the completion of the Tenant Improvements and the payment of all sums due in connection therewith there remains any undisbursed portion of the Additional Tenant Improvement Allowance, Landlord shall, subject to the terms of the Work Letter, make available to Tenant the Alterations Allowance (as defined in the Work Letter). Commencing on the later of (i) the Commencement Date, or (ii) the first day of the month after the disbursement of all or any portion of the Alterations Allowance and continuing thereafter on the first day of each month during the Base Term, Tenant shall pay the amount necessary to fully amortize the portion of the Alterations Allowance actually funded by Landlord, if any, in equal monthly payments with interest at a rate of 8% per annum over the remaining Base Term, which interest shall begin to accrue on the later of (i) the Commencement Date, or (ii) the date that Landlord first disburses such Alterations Allowance or any portion(s) thereof ("**Alterations Allowance Rent**"). Because the Alterations Allowance may be disbursed in multiple installments, the amount of Alterations Allowance Rent shall be subject to adjustment following the disbursement of each such installment. Any Alterations Allowance Rent remaining unpaid as of the expiration or earlier termination of this Lease shall be paid to Landlord in a lump sum at the expiration or earlier termination of this Lease.

5. **Operating Expense Payments**. Landlord shall deliver to Tenant a written estimate of Operating Expenses for each calendar year during the Term (the "**Annual Estimate**"), which may be revised by Landlord from time to time during such calendar year. Commencing on the Commencement Date, and continuing thereafter on the first day of each month during the Term, Tenant shall pay Landlord an amount equal to 1/12th of Tenant's Share of the Annual Estimate. Payments for any fractional calendar month shall be prorated. Landlord shall use commercially reasonable effort to deliver the Annual Estimate at least 30 days prior to the commencement of the calendar year to which such Annual Estimate applies.

The term "**Operating Expenses**" means all costs and expenses of any kind or description whatsoever incurred or accrued each calendar year by Landlord with respect to the Project including, without duplication, (i) Taxes (as defined in Section 9), (ii) Utilities (as defined in Section 11), (iii) insurance costs, (iv) the cost of upgrades to the Building or Project or enhanced services provided at the Building and/or Project which are intended to encourage social distancing, promote and protect health and physical well-being and/or intended to limit the spread of communicable diseases and/or viruses of any kind or nature (collectively, "**Infectious Conditions**"), (v) subject to Section 44(o), transportation services

(including the Shuttle Service Costs (as defined in Section 44(o))), (vi) the cost of the Project Amenities (including, without limitation, reimbursement by Landlord to affiliates of Landlord for market rent paid by such affiliates to Landlord for Project Amenities space, commercially reasonable reduced rent, commercially reasonable subsidies or other commercially reasonable concessions which Landlord may provide in connection with the Project Amenities), (vii) Permitted Capital Expenditures (as defined below) amortized, to the extent applicable as determined by Landlord, over the useful life of such Permitted Capital Expenditures, as reasonably determined by Landlord taking into account all reasonable factors taking into account the 24/7 operation of the Building, (viii) the costs of landscaping and snow removal, and (ix) the costs of Landlord's third party property manager or, if there is no third party property manager, administration rent in the amount of 3% of Base Rent, excluding only:

(a) the original construction costs of the Project including, without limitation, renovation of the Must-Take Premises (as herein defined) prior to Landlord's delivery of such spaces to Tenant or the ROFO Space (as herein defined) and costs of correcting defects in such original construction or renovation, and costs and expenses incurred with respect to Landlord's Work and any work performed by Landlord with respect to the Must-Take Premises or the ROFO Space prior to the delivery of those spaces to Tenant;

(b) capital expenditures except for those capital repairs, improvements and replacements that are: (1) required in order to comply with Legal Requirements; (2) intended to reduce Operating Expenses, (3) maintain or improve the utility, efficiency, capacity, safety or security of the Building or any Building Systems, or (4) are incurred to extend the life of any capital items (collectively, "**Permitted Capital Expenditures**");

(c) interest, principal payments of Mortgage (as defined in Section 27) debts of Landlord, financing costs and amortization of funds borrowed by Landlord, whether secured or unsecured;

(d) depreciation of the Project (except for capital improvements, the cost of which are includable in Operating Expenses);

(e) advertising, legal and space planning expenses and leasing commissions and other costs and expenses incurred in procuring and leasing space to tenants for the Project, including any leasing office maintained in the Project, free rent and construction allowances for tenants;

(f) legal and other expenses incurred in the negotiation or enforcement of leases;

(g) completing, fixturing, improving, renovating, painting, redecorating or other work, which Landlord pays for or performs for other tenants within their premises, and costs of correcting defects in such work;

(h) costs to be reimbursed by other tenants of the Project or Taxes to be paid directly by Tenant or other tenants of the Project, whether or not actually paid;

(i) to the extent the same are paid directly or separately by Tenant to the applicable provider or to Landlord, the cost of all utilities provided to other tenants, including, without limitation, the cost of water and power, electrical utilities, sewage, heating, lighting, air conditioning and ventilation (in which case the equivalent costs attributable to any other tenant shall be excluded so that, for example, if Tenant pays separately for electricity used in the Premises, there shall be excluded from Operating Expenses, the cost of electricity furnished to all other tenant space);

(j) salaries, wages, benefits and other compensation paid to (i) personnel of Landlord or its agents or contractors above the position of the person, regardless of title, who has day-to-day management responsibility for the Project or (ii) officers and employees of Landlord or its affiliates who are not assigned in whole or in part to the operation, management, maintenance or repair of the Project; provided, however, that with respect to any such person who does not devote substantially all of his or her employed time to the Project, the salaries, wages, benefits and other compensation of such person shall be prorated to reflect

time spent on matters related to operating, managing, maintaining or repairing the Project in comparison to the time spent on matters unrelated to operating, managing, maintaining or repairing the Project;

(k) costs incurred for off-site offices or facilities maintained in connection with the management, operation, engineering and/or security services provided to the Project and other properties owned by Landlord or affiliates of Landlord, in excess of the Project's share of such costs as proportionately allocated among the Project and such other properties owned by Landlord or affiliates of Landlord;

(l) general organizational, administrative and overhead costs relating to maintaining Landlord's existence, either as a corporation, partnership, or other entity, including general corporate, legal and accounting expenses;

(m) costs (including attorneys' fees and costs of settlement, judgments and payments in lieu thereof) incurred in connection with disputes with tenants, other occupants, or prospective tenants, and costs and expenses, including legal fees, incurred in connection with negotiations or disputes with employees, consultants, management agents, leasing agents, purchasers or mortgagees of the Building;

(n) costs incurred by Landlord due to the violation by Landlord, its employees, agents or contractors or any tenant of the terms and conditions of any lease of space in the Project or any Legal Requirement (as defined in Section 7);

(o) costs arising from the gross negligence or willful misconduct of Landlord or its agents, and employees;

(p) penalties, fines or interest incurred as a result of Landlord's inability or failure to make payment of Taxes and/or to file any tax or informational returns when due, or from Landlord's failure to make any payment of Taxes required to be made by Landlord hereunder before delinquency;

(q) overhead and profit increment paid to Landlord or to subsidiaries or affiliates of Landlord for goods and/or services in or to the Project to the extent the same exceeds the costs of such goods and/or services rendered by unaffiliated third parties on a competitive basis;

(r) costs of Landlord's charitable or political contributions, or of fine art maintained at the Project;

(s) costs in connection with services (including electricity), items or other benefits of a type which are not standard for the Project and which are not available to Tenant without specific charges therefor, but which are provided to another tenant or occupant of the Project, whether or not such other tenant or occupant is specifically charged therefor by Landlord;

(t) costs incurred in the sale or refinancing of the Project;

(u) net income taxes of Landlord or the owner of any interest in the Project, franchise, capital stock, gift, estate or inheritance taxes or any federal, state or local documentary taxes imposed against the Project or any portion thereof or interest therein;

(v) any expenses otherwise includable within Operating Expenses to the extent actually reimbursed by persons other than tenants of the Project under leases for space in the Project;

(w) costs of repairs or other work necessitated by fire, windstorm or other casualty; provided such costs of repairs or other work shall be paid by the parties in accordance with the provisions of Section 18;

(x) costs or expenses occasioned by condemnation;

(y) any costs incurred to remove, study, test or remediate Hazardous Materials in or about the Premises, the Building or the Project for which Tenant is not responsible under Section 30 hereof;

(z) Operating Expense reserves (other than reserves for Taxes for the then-current year);

(aa) any expenses applicable to applying and reporting for the Building or the Project solely for the purpose of seeking or maintaining a Leadership in Energy and Environmental Design (LEED), WELL Building Standard, or other similar "green" certification rating above a gold standard or its equivalent;

(bb) Shuttle Service Costs if Tenant elects, subject to the terms of Section 44(o), not to participate in the Shuttle Service in accordance with the provisions of Section 44(o); and

(cc) costs to construct the Reservoir Woods Amenities (as defined in Section 42), and any cost or expense related to the operation, maintenance, repair or replacement of the Reservoir Woods Amenities (the parties acknowledge that any such costs, to the extent chargeable to Tenant pursuant to the terms of Section 42, will be separately charged to Tenant as an "Amenities Fee" pursuant to Section 42 and not as an Operating Expense).

In addition, notwithstanding anything to the contrary contained in this Lease, Operating Expenses incurred or accrued by Landlord with respect to any capital improvements which are reasonably expected by Landlord to reduce overall Operating Expenses (for example, without limitation, by reducing energy usage at the Project) (the "**Energy Savings Costs**") shall be amortized over a period of years equal to the least of (A) 10 years, (B) the useful life of such capital items, or (C) the quotient of (i) the Energy Savings Costs, divided by (ii) the annual amount of Operating Expenses reasonably expected by Landlord to be saved as a result of such capital improvements.

Within 90 days after the end of each calendar year (or such longer period as may be reasonably required), Landlord shall furnish to Tenant a statement (an "**Annual Statement**") showing in reasonable detail: (a) the total and Tenant's Share of actual Operating Expenses for the previous calendar year, and (b) the total of Tenant's payments in respect of Operating Expenses for such year. If Tenant's Share of actual Operating Expenses for such year exceeds Tenant's payments of Operating Expenses for such year, the excess shall be due and payable by Tenant as Rent within 30 days after delivery of such Annual Statement to Tenant. If Tenant's payments of Operating Expenses for such year exceed Tenant's Share of actual Operating Expenses for such year Landlord shall pay the excess to Tenant within 30 days after delivery of such Annual Statement, except that after the expiration, or earlier termination of the Term or if Tenant is delinquent in its obligation to pay Rent, Landlord shall pay the excess to Tenant after deducting all other amounts due Landlord. Landlord's and Tenant's obligations to pay any overpayments or deficiencies due pursuant to this paragraph shall survive the expiration or earlier termination of this Lease.

The Annual Statement shall be final and binding upon Tenant unless Tenant, within 180 days after Tenant's receipt thereof, shall contest any item therein or wishes to verify the accuracy of the Annual Statement by giving written notice to Landlord. If, during such 180 day period, Tenant reasonably and in good faith questions or wishes to verify the accuracy of Landlord's statement of Tenant's Share of Operating Expenses, Landlord will provide Tenant with access to Landlord's books and records relating to the operation of the Project and such information as Landlord reasonably determines to be responsive to Tenant's questions (the "**Expense Information**"). If after Tenant's review of such Expense Information, Landlord and Tenant cannot agree upon the amount of Tenant's Share of Operating Expenses, then Tenant shall have the right to have a regionally or nationally recognized independent public accounting firm selected by Tenant and approved by Landlord (which approval shall not be unreasonably withheld or delayed), working pursuant to a fee arrangement other than a contingent fee (the "**Independent Review**"). The results of any such Independent Review shall be binding on Landlord and Tenant. If the Independent Review shows that the payments actually made by Tenant with respect to Operating Expenses for the calendar year in question exceeded Tenant's Share of Operating Expenses for such calendar year, Landlord shall at Landlord's option either (i) credit the excess amount to the next succeeding installments of estimated Operating Expenses or (ii) pay the excess to Tenant within 30 days after delivery of such

statement, except that after the expiration or earlier termination of this Lease or if Tenant is delinquent in its obligation to pay Rent, Landlord shall pay the excess to Tenant after deducting all other amounts due Landlord. If the Independent Review shows that Tenant's payments with respect to Operating Expenses for such calendar year were less than Tenant's Share of Operating Expenses for the calendar year, Tenant shall pay the deficiency to Landlord within 30 days after delivery of such statement. If the Independent Review shows that Tenant has overpaid with respect to Operating Expenses by more than 5% then Landlord shall reimburse Tenant for all costs incurred by Tenant for the Independent Review. Operating Expenses for the calendar years in which Tenant's obligation to share therein begins and ends shall be prorated. Notwithstanding anything set forth herein to the contrary, if the Project is not at least 95% occupied on average during any year of the Term, Tenant's Share of Operating Expenses for such year shall be computed as though the Project had been 95% occupied on average during such year.

"**Tenant's Share**" shall be the percentage set forth on the first page of this Lease as Tenant's Share as reasonably adjusted by Landlord for changes in the physical size of the Premises or the Project occurring thereafter. The rentable square footage of the Premises and the Building shall be calculated by Dimella Schaefer or Stevenson Systems, as determined by Landlord, prior to the date that is within 90 days after the Commencement Date using the Office Buildings: Standard Methods of Measurement ANSI/BOMA Z65.1-2017 Method A as a guideline for a Multi-Occupant Building (the "**Measurement Standard**"). A copy of the letter or report from Dimella Schaefer or Stevenson Systems, as applicable, setting forth its calculation using the Measurement Standard, together with all documentary support therefor, shall be furnished to Landlord and Tenant and shall be binding upon Landlord and Tenant (the "**Notice of Re-determination of RSF**"). If the actual rentable square footage of the Premises and the Building as set forth in the Notice of Re-Determination of RSF deviate from the amount specified in the definitions of "**Premises**," "**Rentable Area of Premises**," and "**Rentable Area of Building and Project**" on page 1 of this Lease, then this Lease shall be amended to reflect the results as set forth in the Notice of Re-determination of RSF in the definitions of "**Premises**," "**Rentable Area of Premises**," "**Rentable Area of Building and Project**," and "**Tenant's Share of Operating Expenses**" shall be adjusted. Landlord may equitably increase Tenant's Share for 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 Project that includes the Premises or that varies with occupancy or use. Base Rent, Tenant's Share of Operating Expenses and all other amounts payable by Tenant to Landlord hereunder are collectively referred to herein as "**Rent**."

6. **Security Deposit**. As an essential condition of this Lease, Tenant shall deposit with Landlord pursuant to the terms of the immediately following paragraph, a security deposit (the "**Security Deposit**") for the performance of all of Tenant's obligations hereunder in the amount set forth on page 1 of this Lease (which amount is subject to reduction as set forth below in this Section 6), which Security Deposit shall be in the form of an unconditional and irrevocable letter of credit (the "**Letter of Credit**"): (i) in form and substance satisfactory to Landlord, (ii) naming Landlord as beneficiary, (iii) expressly allowing Landlord to draw upon it at any time from time to time by delivering to the issuer notice that Landlord is entitled to draw thereunder, (iv) issued by an FDIC-insured financial institution satisfactory to Landlord (it being acknowledged and agreed that Silicon Valley Bank shall be deemed to be an acceptable initial issuer of the Letter of Credit), and (v) redeemable by presentation of a sight draft in the State of California, the Commonwealth of Massachusetts, or such other state of Landlord's choice. If Tenant does not provide Landlord with a substitute Letter of Credit complying with all of the requirements hereof at least 10 days before the stated expiration date of any then current Letter of Credit, Landlord shall have the right to draw the full amount of the current Letter of Credit and hold the funds drawn in cash without obligation for interest thereon as the Security Deposit. The Security Deposit shall be held by Landlord as security for the performance of Tenant's obligations under this Lease. The Security Deposit is not an advance rental deposit or a measure of Landlord's damages in case of Tenant's default. Upon each occurrence of a Default (as defined in Section 20), Landlord may use all or any part of the Security Deposit to pay delinquent payments due under this Lease, future rent damages, and the cost of any damage, injury, expense or liability caused by such Default, without prejudice to any other remedy provided herein or provided by law. Landlord's right to use the Security Deposit under this Section 6 includes the right to use the Security Deposit to pay future rent damages following the termination of this Lease pursuant to Section 21(c) below. Upon any use of all or any portion of the Security Deposit, Tenant shall pay Landlord within 5 days of written demand the amount that will restore the Security Deposit to the amount set forth on Page 1 of this Lease.

Tenant hereby waives the provisions of any law, now or hereafter in force, which provide that Landlord may claim from a security deposit only those sums reasonably necessary to remedy defaults in the payment of Rent, to repair damage caused by Tenant or to clean the Premises, it being agreed that Landlord may, in addition, claim those sums reasonably necessary to compensate Landlord for any other loss or damage, foreseeable or unforeseeable, caused by the act or omission of Tenant or any officer, employee, agent or invitee of Tenant. Upon bankruptcy or other debtor-creditor proceedings against Tenant, the Security Deposit shall be deemed to be applied first to the payment of Rent and other charges due Landlord for periods prior to the filing of such proceedings. If Tenant shall fully perform every provision of this Lease to be performed by Tenant, the Security Deposit, or any balance thereof (i.e., after deducting therefrom all amounts to which Landlord is entitled under the provisions of this Lease), shall be returned to Tenant (or, at Landlord's option, to the last assignee of Tenant's interest hereunder) within 90 days after the expiration or earlier termination of this Lease.

Within 10 business days after the mutual execution and delivery of this Lease by the parties, Tenant shall deliver a Letter of Credit for a portion of the Security Deposit in the amount of $2,572,206.00. On or before January 1, 2023, Tenant shall deliver to Landlord either an amended Letter of Credit increasing the Security Deposit to $6,001,814.00 or a replacement Letter of Credit in the amount of $6,001,814.00. If Tenant delivers a replacement letter of credit pursuant to the immediately preceding sentence, Landlord shall return the original Letter of Credit to Tenant within a reasonable period thereafter.

If, as of the expiration of the 36 months after the Commencement Date (x) Tenant is not then in Default under this Lease, and (y) Tenant has not been in Default under this Lease during the 6 month period immediately preceding Tenant's request for reduction of the Security Deposit (collectively, the "**Reduction Requirements**" and each a "**Reduction Requirement**"), then the Security Deposit shall be reduced to an amount equal to $3,429,608.00 (the "**Reduced Security Deposit**"). If Tenant delivers a written request to Landlord for such reduction of the Security Deposit then, so long as the Reduction Requirements have been satisfied, Landlord shall cooperate with Tenant, at no cost, expense or liability to Landlord, to reduce the Letter of Credit then held by Landlord to the amount of the Reduced Security Deposit. If the Security Deposit is reduced as provided in this paragraph, then from and after the date of such reduction, the "**Security Deposit**" shall be deemed to be the Reduced Security Deposit, for all purposes of this Lease.

If Landlord transfers its interest in the Project or this Lease, Landlord shall either (a) transfer any Security Deposit then held by Landlord to a person or entity assuming Landlord's obligations under this Section 6, or (b) return to Tenant any Security Deposit then held by Landlord and remaining after the deductions permitted herein. Upon such transfer to such transferee or the return of the Security Deposit to Tenant, Landlord shall have no further obligation with respect to the Security Deposit, and Tenant's right to the return of the Security Deposit shall apply solely against Landlord's transferee. Landlord's obligation respecting the Security Deposit is that of a debtor, not a trustee, and no interest shall accrue thereon.

7. **Use**. The Premises shall be used solely for the Permitted Use set forth in the basic lease provisions on page 1 of this Lease, and in compliance with all laws, orders, judgments, ordinances, regulations, codes, directives, permits, licenses, covenants and restrictions now or hereafter applicable to the Premises, and to the use and occupancy thereof, including, without limitation, the Americans With Disabilities Act, 42 U.S.C. § 12101, et seq. (together with the regulations promulgated pursuant thereto, "**ADA**") (collectively, "**Legal Requirements**" and each, a "**Legal Requirement**"). Tenant shall, upon 5 days' written notice from Landlord, discontinue any use of the Premises which is declared by any Governmental Authority (as defined in Section 9) having jurisdiction to be a violation of a Legal Requirement. Tenant will not use or permit the Premises to be used for any purpose or in any manner that would void Tenant's or Landlord's insurance, increase the insurance risk, or cause the disallowance of any sprinkler or other credits. Tenant shall not permit any part of the Premises to be used as a "place of public accommodation", as defined in the ADA or any similar legal requirement. Tenant shall reimburse Landlord promptly upon demand for any additional premium charged for any such insurance policy by reason of Tenant's failure to comply with the provisions of this Section or otherwise caused by Tenant's use and/or occupancy of the Premises. Tenant will use the Premises in a careful, safe and proper manner and will not commit or permit waste, overload the floor or structure of the Premises, subject the Premises to use that would damage the Premises or obstruct or interfere with the rights of Landlord or other tenants or occupants of the Project,

including conducting or giving notice of any auction, liquidation, or going out of business sale on the Premises, or using or allowing the Premises to be used for any unlawful purpose. Tenant shall cause any equipment or machinery to be installed in the Premises so as to reasonably prevent sounds or vibrations from the Premises from extending into Common Areas, or other space in the Project. Tenant shall not place any machinery or equipment which would overload the floor in or upon the Premises or transport or move such items through the Common Areas of the Project or in the Project elevators without the prior written consent of Landlord, which consent shall not be unreasonably withheld, conditioned or delayed. Except as may be provided under the Work Letter, Tenant shall not, without the prior written consent of Landlord, use the Premises in any manner which will require ventilation, air exchange, heating, gas, steam, electricity or water beyond the capacity of the Project as of the Commencement Date, as proportionately allocated to the Premises based upon Tenant's Share as usually furnished for the Permitted Use.

Landlord shall be responsible, (i) subject to the terms of the Work Letter, for the compliance of the Premises with Legal Requirements (including the ADA) as of the Commencement Date, and (ii) at Landlord's cost, for the compliance of the Common Areas of the Project with Legal Requirements (including the ADA) as of the Commencement Date. Following the Commencement Date, Landlord shall, as an Operating Expense (to the extent such Legal Requirement is generally applicable to similar buildings in the area in which the Project is located) or at Tenant's expense (to the extent such Legal Requirement is triggered by reason of Tenant's, as compared to other tenants of the Project, particular use of the Premises or Tenant's Alterations) make any alterations or modifications to the Common Areas or the exterior of the Building that are required by Legal Requirements. Except as otherwise expressly provided in the 2 immediately preceding sentences, Tenant, at its sole expense, shall make any alterations or modifications to the interior of the Premises that are required by Legal Requirements (including, without limitation, compliance of the Premises with the ADA) related to Tenant's use or occupancy of the Premises. Notwithstanding any other provision herein to the contrary, Tenant shall be responsible for any and all demands, claims, liabilities, losses, costs, expenses, actions, causes of action, damages or judgments, and all reasonable expenses incurred in investigating or resisting the same (including, without limitation, reasonable attorneys' fees, charges and disbursements and costs of suit) (collectively, "**Claims**") arising out of or in connection with Legal Requirements related to Tenant's use or occupancy of the Premises or Tenant's Alterations, and Tenant shall indemnify, defend, hold and save Landlord harmless from and against any and all Claims arising out of or in connection with any failure of the Premises to comply with any Legal Requirement related to Tenant's use or occupancy of the Premises or Tenant's Alterations.

Tenant acknowledges that Landlord may, but shall not be obligated to, seek to obtain Leadership in Energy and Environmental Design (LEED), WELL Building Standard, or other similar "green" certification with respect to the Project and/or the Premises, and Tenant agrees to reasonably cooperate with Landlord, at no material cost to Tenant, and to provide such information and/or documentation as Landlord may reasonably request, in connection therewith. For the avoidance of doubt, in no event shall the costs incurred by Landlord to obtain any LEED, WELL Building Standard or similar "green" certification be included as part of Operating Expenses.

8. **Holding Over**. If, with Landlord's express written consent, Tenant retains possession of the Premises after the termination of the Term, (i) unless otherwise agreed in such written consent, such possession shall be subject to immediate termination by Landlord at any time, (ii) all of the other terms and provisions of this Lease (including, without limitation, the adjustment of Base Rent pursuant to Section 4 hereof) shall remain in full force and effect (excluding any expansion or renewal option or other similar right or option) during such holdover period, (iii) Tenant shall continue to pay Base Rent in the amount payable upon the date of the expiration or earlier termination of this Lease or such other amount as Landlord may indicate, in Landlord's sole and absolute discretion, in such written consent, and (iv) all other payments shall continue under the terms of this Lease. If Tenant remains in possession of the Premises after the expiration or earlier termination of the Term without the express written consent of Landlord, (A) Tenant shall become a tenant at sufferance upon the terms of this Lease except that the monthly rental shall be equal to 150% of Rent in effect during the last 30 days of the Term, and (B) if such occupancy shall continue for more than 30 days, Tenant shall be responsible for all damages suffered by Landlord resulting from or occasioned by Tenant's holding over, including consequential damages; provided, however, that if Tenant delivers a written inquiry to Landlord within 30 days prior to the expiration or earlier termination of the Term,

Landlord will notify Tenant whether the potential exists for consequential damages. No holding over by Tenant, whether with or without consent of Landlord, shall operate to extend this Lease except as otherwise expressly provided, and this Section 8 shall not be construed as consent for Tenant to retain possession of the Premises. Acceptance by Landlord of Rent after the expiration of the Term or earlier termination of this Lease shall not result in a renewal or reinstatement of this Lease.

9. **Taxes**.

(a) Landlord shall pay, as part of Operating Expenses, all taxes, levies, fees, assessments and governmental charges of any kind, existing as of the Commencement Date or thereafter enacted (collectively referred to as "**Taxes**"), imposed by any federal, state, regional, municipal, local or other governmental authority or agency, including, without limitation, quasi-public agencies (collectively, "**Governmental Authority**") during the Term, including, without limitation, all Taxes: (i) imposed on or measured by or based, in whole or in part, on rent payable to (or gross receipts received by) Landlord under this Lease and/or from the rental by Landlord of the Project or any portion thereof, or (ii) based on the square footage, assessed value or other measure or evaluation of any kind of the Premises or the Project, or (iii) assessed or imposed by or on the operation or maintenance of any portion of the Premises or the Project, including parking, or (iv) assessed or imposed by, or at the direction of, or resulting from Legal Requirements, or interpretations thereof, promulgated by any Governmental Authority, or (v) imposed as a license or other fee, charge, tax, or assessment on Landlord's business or occupation of leasing space in the Project. Landlord may contest by appropriate legal proceedings the amount, validity, or application of any Taxes or liens securing Taxes. If Landlord secures an abatement or refund for the Project for a period during the Term, Tenant shall receive Tenant's Share of such abatement or refund (i.e., the net amount after paying all reasonable costs and expenses of securing the abatement or refund, including reasonable attorneys' fees) as credit to be applied by Landlord against Operating Expenses next coming due (or, if no further Operating Expenses are due from Tenant under this Lease and Tenant is not in Default under this Lease, a cash payment to Tenant). Taxes shall not include any net income taxes imposed on Landlord except to the extent such net income taxes are in substitution for any Taxes payable hereunder. If any such Tax is levied or assessed directly against Tenant, then Tenant shall be responsible for and shall pay the same at such times and in such manner as the taxing authority shall require. Tenant shall pay, prior to delinquency, any and all Taxes levied or assessed against any personal property or trade fixtures placed by Tenant in the Premises, whether levied or assessed against Landlord or Tenant. If any Taxes on Tenant's personal property or trade fixtures are levied against Landlord or Landlord's property, or if the assessed valuation of the Project is increased by a value attributable to improvements in or alterations to the Premises, whether owned by Landlord or Tenant and whether or not affixed to the real property so as to become a part thereof, higher than the base valuation on which Landlord from time-to-time allocates Taxes to all tenants in the Project, Landlord shall have the right, but not the obligation, to pay such Taxes. Landlord's determination of any excess assessed valuation shall be binding and conclusive, absent manifest error. The amount of any such payment by Landlord shall constitute Additional Rent due from Tenant to Landlord immediately upon demand.

(b) If Tenant disputes in good faith any taxes or assessments levied against the Building or Tenant's personal property, trade fixtures or improvements or alterations in the Premises for tax assessment purposes, then Tenant may request in writing (a "**Tax Dispute Notice**") that Landlord contest the same. A Tax Dispute Notice shall set forth in reasonable detail the particular matters which Tenant disputes and Tenant's basis for such dispute. Upon receipt of a Tax Dispute Notice, provided that no Default exists hereunder, Landlord shall use reasonable efforts to contest those matters set forth in the applicable Tax Dispute Notice. Tenant shall reimburse Landlord within 30 days of invoice for all costs and expenses reasonably incurred by Landlord in contesting such matters. Failure of Tenant to timely pay the foregoing amounts shall permit Landlord to suspend or terminate any such contest. Tenant shall be entitled to Tenant's Share of any refund obtained by reason of any such contest or otherwise whether obtained during or after the expiration of the Term, except that if the refund shall relate to the year in which the Term commences or expires, Tenant's Share of the refund shall be apportioned between Landlord and Tenant according to the number of days within the Term provided Tenant paid Taxes for the year relating to such refund. If Landlord fails to commence to contest those matters set forth in a Tax Dispute Notice within 30 days after delivery of such Tax Dispute Notice, then Tenant may deliver a second written notice requesting

that Landlord contest those matters set forth in the applicable Tax Dispute Notice. If within 20 days following receipt of such second written notice, Landlord fails to commence to contest those matters set forth in the applicable Tax Dispute Notice, then, so long as Tenant is not in Default, Tenant shall have the right to contest or review, at Tenant's expense, by appropriate proceedings (which may be instituted during the Term, and if instituted shall be with the reasonable cooperation of Landlord if requested) those matters set forth in the applicable Tax Dispute Notice. Upon reasonable request from Tenant, Landlord shall furnish, on a timely basis, such data, documents, information and assistance and make such appearances as may be reasonably required by Tenant. Landlord shall, at no cost or liability to Landlord, reasonably cooperate with Tenant in connection with any such protest, appeal or other proceedings. Tenant shall not abandon any appeal without first offering to Landlord the right to prosecute such appeal. In no event may Tenant reach any agreement with any Governmental Authorities with respect to Taxes for any future tax year(s) or any other property which may be binding on Landlord

10. **Parking and TDMP**.

(a) **Parking**. Subject to all applicable Legal Requirements, Force Majeure, a Taking (as defined in Section 19 below) and the exercise by Landlord of its rights hereunder, Tenant shall have the right at no additional cost during the Term, to use 2.3 parking spaces per 1,000 rentable square feet of the Premises, which parking spaces shall be located in those areas designated for non-reserved parking, subject in each case to Landlord's rules and regulations. Notwithstanding anything to the contrary contained herein, 8 of the parking spaces allocated to Tenant pursuant to the first sentence of this Section 10, near the main entrance of the Building and otherwise in locations designated by Landlord, will be designated as reserved for use by Tenant. Landlord shall not be responsible for enforcing Tenant's parking rights against any third parties, including other tenants of the Project, or for enforcing any such reservation of parking spaces. At the request of Tenant, at Tenant's sole cost and expense, Landlord shall install mutually acceptable signage identifying Tenant's reserved spaces, the cost of which may be paid with the TI Fund. Landlord hereby agrees that it shall not grant parking rights to other tenants of the Project in excess of a number of parking spaces equal to 2.3 parking spaces per 1,000 rentable square feet of such other tenant's leased premises, or, subject to all applicable Legal Requirements, Force Majeure, and a Taking, reduce the total number of available parking spaces for the Project below 2.3 parking spaces per 1,000 rentable square feet of the Building and Project.

(b) **Transportation Demand Management Program**. If a transportation demand management program ("**TDMP**") setting forth requirements relating to parking and transportation demand management is implemented with respect to the Project at any time during the Term, Tenant shall comply with such TDMP.

11. **Utilities, Services**. Landlord shall provide, subject to the terms of this Section 11, water, electricity, heat, light, power, sewer, and other utilities (including gas and fire sprinklers to the extent the Project is plumbed for such services as of the Commencement Date), and with respect to the Common Areas only, refuse and trash collection and janitorial services (collectively, "**Utilities**"). Landlord shall pay, as Operating Expenses or subject to Tenant's reimbursement obligation, for all Utilities used on the Premises, all maintenance charges for Utilities, and any storm sewer charges or other similar charges for Utilities imposed by any Governmental Authority or Utility provider, and any taxes, penalties, surcharges or similar charges thereon. The Premises shall be separately check-metered to measure Tenant's usage of electricity. Landlord may cause, at Landlord's expense (except to the extent necessary as a result of Tenant's disproportionate usage of Utilities in which case it shall be a Tenant expense), any other Utilities to be separately metered or charged directly to Tenant by the provider. Tenant shall pay directly to the Utility provider, prior to delinquency, any separately metered Utilities and services which may be furnished to Tenant or the Premises during the Term. Tenant shall pay, as part of Operating Expenses, its share of all charges for jointly metered Utilities based upon consumption, as reasonably determined by Landlord. No interruption or failure of Utilities from any cause whatsoever shall result in eviction or constructive eviction of Tenant, termination of this Lease or, except as expressly provided in the immediately following paragraph, the abatement of Rent. Tenant shall be responsible, at Tenant's cost, for the installation of all communication and data wiring serving the Premises. Tenant shall be responsible, using vendors reasonably acceptable to Landlord, for obtaining and paying for its own janitorial and waste disposal

services for the Premises including, without limitation services for the disposal of manufacturing waste and Hazardous Materials waste generated from the Premises. Tenant may use the passenger elevator and freight elevator serving the Building during the Term in common with others entitled thereto at no additional charge, subject to downtime for maintenance and repairs.

Notwithstanding anything to the contrary set forth herein, if (i) a stoppage of an Essential Service (as defined below) to the Premises shall occur and such stoppage is due solely to the negligence or willful misconduct of Landlord and not due in any part to any act or omission on the part of Tenant or any Tenant Party or any matter beyond Landlord's reasonable control (any such stoppage of an Essential Service being hereinafter referred to as a "**Service Interruption**"), and (ii) such Service Interruption continues for more than 5 consecutive business days after Landlord shall have received written notice thereof from Tenant, and (iii) as a result of such Service Interruption, the conduct of Tenant's normal operations in the Premises are materially and adversely affected, then, there shall be an abatement of one day's Base Rent for each day during which such Service Interruption continues after such 5 business day period; provided, however, that if any part of the Premises is reasonably useable for Tenant's normal business operations or if Tenant conducts all or any part of its operations in any portion of the Premises notwithstanding such Service Interruption, then the amount of each daily abatement of Base Rent shall only be proportionate to the nature and extent of the interruption of Tenant's normal operations or ability to use the Premises. The rights granted to Tenant under this paragraph shall be Tenant's sole and exclusive remedy resulting from a failure of Landlord to provide services, and Landlord shall not otherwise be liable for any loss or damage suffered or sustained by Tenant resulting from any failure or cessation of services. For purposes hereof, the term "**Essential Services**" shall mean the following services: HVAC service, water, sewer and electricity, but in each case only to the extent that Landlord has an obligation to provide same to Tenant under this Lease.

Landlord's sole obligation for either providing emergency generators or providing emergency back-up power to Tenant shall be: (i) to provide emergency generator with not less than the capacity of the emergency generator located in the Building as of the Commencement Date, and (ii) to contract with a third party to maintain the emergency generator as per the manufacturer's standard maintenance guidelines. Except as otherwise provided in the immediately preceding sentence, Landlord shall have no obligation to provide Tenant with an operational emergency generator or back-up power or to supervise, oversee or confirm that the third party maintaining the emergency generator is maintaining the generators as per the manufacturer's standard guidelines or otherwise. Notwithstanding anything to the contrary contained herein, Landlord shall, at least once per month as part of the maintenance of the Building, run the emergency generator for a period reasonably determined by Landlord for the purpose of determining whether it operates when started. Landlord shall, upon written request from Tenant (not more frequently than once per calendar year), make available for Tenant's inspection the maintenance contract and maintenance records for the emergency generators for the 12 month period immediately preceding Landlord's receipt of Tenant's written request. During any period of replacement, repair or maintenance of the emergency generator when the emergency generator is not operational, including any delays thereto due to the inability to obtain parts or replacement equipment, Landlord shall have no obligation to provide Tenant with an alternative back-up generator or alternative sources of back-up power. Tenant acknowledges and agrees that (x) in connection with the proper verification of loads and maintenance of the emergency generator, that power will need to be transferred during routine testing, and (y) Tenant is responsible for cooperating with Landlord or Landlord's third party contractor with respect to scheduling such routine tests and checking its own equipment loads as it operates during load transfer periods. Tenant expressly acknowledges and agrees that Landlord does not guaranty that such emergency generator will be operational at all times or that emergency power will be available to the Premises when needed.

Notwithstanding anything to the contrary contained herein, Tenant shall have the right to install, at Tenant's sole cost and expense, an emergency generator serving the Premises, relates fixtures, and related screening of a design and type reasonably acceptable to Landlord (collectively, the "**Dedicated Generator**") in a portion of the Project reasonably acceptable to Landlord and Tenant (collectively the "**Generator Area**"). Commencing on the date that Tenant installs such Dedicated Generator, Tenant shall have all of the obligations under this Lease with respect to the Generator Area as though the Generator Area were part of the Premises. The number of parking spaces available to Tenant under this Lease may be reduced by the number of parking spaces impacted by the Generator Area, if any. Tenant shall remove Dedicated

Generator from the Generator Area at the expiration or earlier termination of this Lease. At the expiration or earlier termination of this Lease, Tenant shall restore the Generator Area to substantially its condition prior to the installation of the Dedicated Generator and shall otherwise surrender the Generator Area free of any debris and trash and free of any Hazardous Materials. Landlord shall have no obligation to make any repairs or improvements to the Dedicated Generator or the Generator Area and Tenant shall maintain the Dedicated Generator and the Generator Area, at Tenant's sole cost and expense, in good repair and condition during the Term.

Tenant agrees to provide Landlord with access to Tenant's water and energy usage data on a monthly basis, either by providing Tenant's applicable utility login credentials to Landlord's designated online portal, or by another delivery method reasonably agreed to by Landlord and Tenant. The costs and expenses incurred by Landlord in connection with receiving and analyzing such water and energy usage data (including, without limitation, as may be required pursuant to applicable Legal Requirements) shall be included as part of Operating Expenses.

12. **Alterations and Tenant's Property**. Any alterations, additions, or improvements made to the Premises by or on behalf of Tenant, including additional locks or bolts of any kind or nature upon any doors or windows in the Premises, but excluding installation, removal or realignment of furniture systems (other than removal of furniture systems owned or paid for by Landlord) not involving any modifications to the structure or connections (other than by ordinary plugs or jacks) to Building Systems ("**Alterations**") shall be subject to Landlord's prior written consent, which may be given or withheld in Landlord's sole discretion if any such Alteration affects the structure or Building Systems and shall not be otherwise unreasonably withheld. Tenant may construct nonstructural, cosmetic Alterations in the Premises without Landlord's prior approval if the aggregate cost of all such work in any 12 month period does not exceed $500,000.00 (a "**Notice-Only Alteration**"), provided Tenant notifies Landlord in writing of such intended Notice-Only Alteration, and such notice shall be accompanied by plans, specifications, work contracts and such other information concerning the nature and cost of the Notice-Only Alteration as may be reasonably requested by Landlord, which notice and accompanying materials shall be delivered to Landlord not less than 15 business days in advance of any proposed construction. If Landlord approves any Alterations, Landlord may impose such conditions on Tenant in connection with the commencement, performance and completion of such Alterations as Landlord may deem appropriate in Landlord's reasonable discretion. Any request for approval shall be in writing, delivered not less than 15 business days in advance of any proposed construction, and accompanied by plans, specifications, bid proposals, work contracts and such other information concerning the nature and cost of the alterations as may be reasonably requested by Landlord, including the identities and mailing addresses of all persons performing work or supplying materials. Landlord's right to review plans and specifications and to monitor construction shall be solely for its own benefit, and Landlord shall have no duty to ensure that such plans and specifications or construction comply with applicable Legal Requirements. Tenant shall cause, at its sole cost and expense, all Alterations to comply with insurance requirements and with Legal Requirements and shall implement at its sole cost and expense any alteration or modification required by Legal Requirements as a result of any Alterations. Tenant shall pay to Landlord, as Additional Rent, on demand, an amount equal to the reasonable out-of-pocket costs incurred by Landlord with respect to each Alteration. Before Tenant begins any Alteration, Landlord may post on and about the Premises notices of non-responsibility pursuant to applicable law. Tenant shall reimburse Landlord for, and indemnify and hold Landlord harmless from, any expense incurred by Landlord by reason of faulty work done by Tenant or its contractors, delays caused by such work, or inadequate cleanup.

Tenant shall furnish security or make other arrangements reasonably satisfactory to Landlord to assure payment for the completion of all Alterations work free and clear of liens, and shall provide (and cause each contractor or subcontractor to provide) certificates of insurance for workers' compensation and other coverage in amounts and from an insurance company satisfactory to Landlord protecting Landlord against liability for personal injury or property damage during construction. Upon completion of any Alterations, Tenant shall deliver to Landlord: (i) sworn statements setting forth the names of all contractors and subcontractors who did the work and final lien waivers from all such contractors and subcontractors; and (ii) "as built" plans for any such Alteration.

Except for Removable Installations (as hereinafter defined), all Installations (as hereinafter defined) shall be and shall remain the property of Landlord during the Term and following the expiration or earlier termination of the Term, shall not be removed by Tenant at any time during the Term, and shall remain upon and be surrendered with the Premises as a part thereof. Notwithstanding the foregoing, Landlord shall, if requested in writing by Tenant at the time its approval of any such Installation is requested or at the time it receives notice of a Notice-Only Alteration, notify Tenant whether Landlord requires that Tenant remove such Installation upon the expiration or earlier termination of the Term. If removal of an installation is required, Tenant shall remove such Installation in accordance with the immediately succeeding sentence. Upon the expiration or earlier termination of the Term, Tenant shall remove (i) all wires, cables or similar equipment which Tenant has installed in the Premises or in the risers or plenums of the Building, (ii) any Installations for which Landlord has given Tenant notice of removal in accordance with the immediately preceding sentence, and (iii) all of Tenant's Property (as hereinafter defined), and Tenant shall restore and repair any damage caused by or occasioned as a result of such removal, including, without limitation, capping off all such connections behind the walls of the Premises and repairing any holes. During any restoration period beyond the expiration or earlier termination of the Term, Tenant shall pay Rent to Landlord as provided herein as if said space were otherwise occupied by Tenant. If Landlord is requested by Tenant or any lender, lessor or other person or entity claiming an interest in any of Tenant's Property to waive any lien Landlord may have against any of Tenant's Property, and Landlord consents to such waiver, then Landlord shall be entitled to reimbursement from Tenant for its actual, reasonable out-of-pocket costs incurred in connection with the preparation and negotiation of each such waiver of lien.

For purposes of this Lease, (x) "**Removable Installations**" means any items listed on **Exhibit F** attached hereto and any items agreed by Landlord in writing to be included on **Exhibit F** in the future, (y) "**Tenant's Property**" means Removable Installations and, other than Installations, any personal property or equipment of Tenant that may be removed without material damage to the Premises, and (z) "**Installations**" means all property of any kind paid for with the TI Fund, all Alterations, all fixtures, and all partitions, hardware, built-in machinery, built-in casework and cabinets and other similar additions, equipment, property and improvements built into the Premises so as to become an integral part of the Premises, including, without limitation, fume hoods which penetrate the roof or plenum area, built-in cold rooms, built-in warm rooms, walk-in cold rooms, walk-in warm rooms, deionized water systems, glass washing equipment, autoclaves, chillers, built-in plumbing, electrical and mechanical equipment and systems, and any power generator and transfer switch.

Notwithstanding anything to the contrary contained herein, Landlord shall notify Tenant at the time the Space Plans for the Tenant Improvements are finalized whether Landlord will require Tenant to remove or restore the Tenant Improvements constructed pursuant to the Work Letter at the expiration or earlier termination of this Lease.

13. **Landlord's Repairs**. Landlord, as an Operating Expense, shall maintain all of the structural, exterior, parking and other Common Areas of the Project, including HVAC, plumbing, fire sprinklers, elevators and all other building systems serving the Premises and other portions of the Project ("**Building Systems**"), in good operating order and repair, reasonable wear and tear and uninsured losses and damages caused by Tenant, or by any of Tenant's assignees, sublessees, licensees, agents, servants, employees, invitees and contractors (or any of Tenant's assignees, sublessees and/or licensees respective agents, servants, employees, invitees and contractors) (collectively, "**Tenant Parties**") excluded. Losses and damages caused by Tenant or any Tenant Party shall be repaired by Landlord, to the extent not covered by insurance required to be maintained by Landlord or Tenant hereunder pursuant to Section 17, at Tenant's sole cost and expense. Landlord reserves the right to stop Building Systems services when necessary (i) by reason of accident or emergency, or (ii) for planned repairs, alterations or improvements, which are, in the judgment of Landlord, desirable or necessary to be made, until said repairs, alterations or improvements shall have been completed. Landlord shall have no responsibility or liability for failure to supply Building Systems services during any such period of interruption; provided, however, that Landlord shall, except in case of emergency, give Tenant not less than 10 business days' advance notice of any planned stoppage of Building Systems services for routine maintenance, repairs, alterations or improvements. Landlord shall use reasonable efforts to minimize interference with Tenant's operations in the Premises during such planned stoppages of Building Systems and shall coordinate in good faith such

planned stoppages in advance (except in the case of an emergency) with Tenant to minimize interference with Tenant's operations in the laboratory portions of the Premises. Tenant shall promptly give Landlord written notice of any repair required by Landlord pursuant to this Section, after which Landlord shall make a commercially reasonable effort to effect such repair. Landlord shall not be liable for any failure to make any repairs or to perform any maintenance unless such failure shall persist for an unreasonable time after Tenant's written notice of the need for such repairs or maintenance. Tenant waives its rights under any state or local law to terminate this Lease or to make such repairs at Landlord's expense and agrees that the parties' respective rights with respect to such matters shall be solely as set forth herein. Repairs required as the result of fire, earthquake, flood, vandalism, war, or similar cause of damage or destruction shall be controlled by Section 18.

14. **Tenant's Repairs**. Subject to the terms of Section 13 hereof, Tenant, at its expense, shall repair, replace and maintain in good condition all portions of the Premises, including, without limitation, entries, doors, ceilings, interior windows, interior walls, and the interior side of demising walls. Should Tenant fail to make any such repair or replacement or fail to maintain the Premises, Landlord shall give Tenant notice of such failure. If Tenant fails to commence cure of such failure within 30 days of Landlord's notice, and thereafter diligently prosecute such cure to completion, Landlord may perform such work and shall be reimbursed by Tenant within 30 business days after demand therefor; provided, however, that if such failure by Tenant creates or could create an emergency, Landlord may immediately commence cure of such failure and shall thereafter be entitled to recover the costs of such cure from Tenant. Subject to Sections 17 and 18, Tenant shall bear the full uninsured cost (provided that such unavailability of insurance proceeds is not the result of Landlord's failure to maintain the insurance policies required to be maintained by Landlord under Section 17) of any repair or replacement to any part of the Project that results from damage caused by Tenant or any Tenant Party.

15. **Mechanic's Liens**. Tenant shall discharge, by bond or otherwise, any mechanic's lien filed against the Premises or against the Project for work claimed to have been done for, or materials claimed to have been furnished to, Tenant within 10 business days after Tenant receives notice of the filing thereof, at Tenant's sole cost and shall otherwise keep the Premises and the Project free from any liens arising out of work performed, materials furnished or obligations incurred by Tenant. Should Tenant fail to discharge any lien described herein, Landlord shall have the right, but not the obligation, to pay such claim or post a bond or otherwise provide security to eliminate the lien as a claim against title to the Project and the cost thereof shall be immediately due from Tenant as Additional Rent. If Tenant shall lease or finance the acquisition of office equipment, furnishings, or other personal property of a removable nature utilized by Tenant in the operation of Tenant's business, Tenant warrants that any Uniform Commercial Code Financing Statement filed as a matter of public record by any lessor or creditor of Tenant will upon its face or by exhibit thereto indicate that such Financing Statement is applicable only to removable personal property of Tenant located within the Premises. In no event shall the address of the Project be furnished on the statement without qualifying language as to applicability of the lien only to removable personal property, located in an identified suite held by Tenant.

16. **Indemnification**. Tenant hereby indemnifies and agrees to defend, save and hold Landlord, its officers, directors, employees, managers, agents, sub-agents, constituent entities and lease signators (collectively, "**Landlord Indemnified Parties**") harmless from and against any and all Claims for injury or death to persons or damage to property occurring within or about the Premises or the Project arising directly or indirectly out of use or occupancy of the Premises or the Project by Tenant or any Tenant Parties (including, without limitation, any act, omission or neglect by Tenant or any Tenant's Parties in or about the Premises or at the Project) or a breach or default by Tenant in the performance of any of its obligations hereunder, except to the extent caused by the willful misconduct or negligence of Landlord Indemnified Parties. Landlord shall not be liable to Tenant for, and Tenant assumes all risk of damage to, personal property (including, without limitation, loss of records kept within the Premises). Tenant further waives any and all Claims for injury to Tenant's business or loss of income relating to any such damage or destruction of personal property (including, without limitation, any loss of records). Landlord Indemnified Parties shall not be liable for any damages arising from any act, omission or neglect of any tenant in the Project or of any other third party or Tenant Parties.

Subject to all of the other provisions of this Lease including, without limitation, the waivers provided in Sections 17 and 36, Landlord hereby indemnifies and agrees to defend, save and hold Tenant harmless from and against any and all third party Claims for injury or death to persons or damage to property occurring at the Project (outside of the Premises) caused by Landlord's willful misconduct or gross negligence, except to the extent caused by the willful misconduct or negligence of Tenant or its employees or agents.

17. **Insurance**. Landlord shall maintain all risk property and, if applicable, sprinkler damage insurance covering the full replacement cost of the Project. Landlord shall further procure and maintain commercial general liability insurance with a single loss limit of not less than $5,000,000 for bodily injury and property damage with respect to the Project. Landlord may, but is not obligated to, maintain such other insurance and additional coverages as it may deem necessary, including, but not limited to, flood, environmental hazard and earthquake, loss or failure of building equipment, errors and omissions, rental loss during the period of repair or rebuilding, workers' compensation insurance and fidelity bonds for employees employed to perform services and insurance for any improvements installed by Tenant or which are in addition to the standard improvements customarily furnished by Landlord without regard to whether or not such are made a part of the Project. All such insurance shall be included as part of the Operating Expenses. The Project may be included in a blanket policy (in which case the cost of such insurance allocable to the Project will be determined by Landlord based upon the insurer's cost calculations). Tenant shall also reimburse Landlord for any increased premiums or additional insurance which Landlord reasonably deems necessary as a result of Tenant's use of the Premises.

Tenant, at its sole cost and expense, shall maintain during the Term: all risk property insurance with business interruption and extra expense coverage, covering the full replacement cost of all property and improvements installed or placed in the Premises by Tenant at Tenant's expense; workers' compensation insurance with no less than the minimum limits required by law; employer's liability insurance with employers liability limits of $1,000,000 bodily injury by accident – each accident, $1,000,000 bodily injury by disease – policy limit, and $1,000,000 bodily injury by disease – each employee; and commercial general liability insurance, with a minimum limit of not less than $5,000,000 per occurrence/$5,000,000 aggregate for bodily injury and property damage with respect to the Premises. Liability limits can be satisfied through a combination of primary and excess policies. The commercial general liability insurance maintained by Tenant shall name Alexandria Real Estate Equities, Inc., and Landlord, its officers, directors, employees, managers, agents, sub-agents, constituent entities, joint venture partners and lease signators (collectively, "**Landlord Insured Parties**"), as additional insureds; insure on an occurrence and not a claims-made basis; be issued by insurance companies which have a rating of not less than policyholder rating of A and financial category rating of at least Class X in "Best's Insurance Guide"; not contain a hostile fire exclusion; contain a contractual liability endorsement; and provide primary coverage to Landlord Insured Parties (any policy issued to Landlord Insured Parties providing duplicate or similar coverage shall be deemed excess over Tenant's policies, regardless of limits). Tenant shall provide Landlord with 30 days advance written notice of cancellation of such commercial general liability policy. Certificates of insurance showing the limits of coverage required hereunder and showing Landlord as an additional insured shall be delivered to Landlord by Tenant (i) concurrent with Tenant's delivery to Landlord of a copy of this Lease executed by Tenant, and (ii) prior to each renewal of said insurance. Tenant's policy may be a "blanket policy" with an aggregate per location endorsement which specifically provides that the amount of insurance shall not be prejudiced by other losses covered by the policy. Tenant shall, at least 5 days prior to the expiration of such policies, furnish Landlord with renewal certificates.

In each instance where insurance is to name Landlord as an additional insured, Tenant shall upon written request of Landlord also designate and furnish certificates so evidencing Landlord as additional insured to: (i) any lender of Landlord holding a security interest in the Project or any portion thereof, (ii) the landlord under any lease wherein Landlord is tenant of the real property on which the Project is located, if the interest of Landlord is or shall become that of a tenant under a ground or other underlying lease rather than that of a fee owner, and/or (iii) any management company retained by Landlord to manage the Project.

The property insurance obtained by Landlord and Tenant shall include a waiver of subrogation by the insurers and all rights based upon an assignment from its insured, against Landlord or Tenant, and their

respective officers, directors, employees, managers, agents, invitees and contractors ("**Related Parties**"), in connection with any loss or damage thereby insured against. Neither party nor its respective Related Parties shall be liable to the other for loss or damage caused by any risk insured against under property insurance required to be maintained hereunder, and each party waives any claims against the other party, and its respective Related Parties, for such loss or damage. The failure of a party to insure its property shall not void this waiver. Landlord and its respective Related Parties shall not be liable for, and Tenant hereby waives all claims against such parties for, business interruption and losses occasioned thereby sustained by Tenant or any person claiming through Tenant resulting from any accident or occurrence in or upon the Premises or the Project from any cause whatsoever. If the foregoing waivers shall contravene any law with respect to exculpatory agreements, the liability of Landlord or Tenant shall be deemed not released but shall be secondary to the other's insurer.

Landlord may require insurance policy limits to be raised to conform with requirements of Landlord's lender and/or to bring coverage limits to levels then being generally required of new tenants within the Project; provided, however, that the increased amount of coverage is consistent with coverage amounts then being required by institutional owners of similar projects with tenants occupying similar size premises in the geographical area in which the Project is located.

18. **Restoration**. If, at any time during the Term, the Project or the Premises are damaged or destroyed by a fire or other casualty, Landlord shall notify Tenant within 60 days after discovery of such damage as to the amount of time Landlord reasonably estimates it will take to restore the Project or the Premises, as applicable (the "**Restoration Period**"). If the Restoration Period is estimated to exceed 12 months (the "**Maximum Restoration Period**"), Landlord may, in such notice, elect to terminate this Lease as of the date that is 75 days after the date of discovery of such damage or destruction; provided, however, that notwithstanding Landlord's election to restore, Tenant may elect to terminate this Lease by written notice to Landlord delivered within 10 days of receipt of a notice from Landlord estimating a Restoration Period for the Premises longer than the Maximum Restoration Period. Unless either Landlord or Tenant so elects to terminate this Lease, Landlord shall, subject to receipt of sufficient insurance proceeds (with any deductible to be treated as a current Operating Expense), promptly restore the Premises (excluding the improvements installed by Tenant or by Landlord and paid for by Tenant), subject to delays arising from the collection of insurance proceeds, from Force Majeure events or as needed to obtain any license, clearance or other authorization of any kind required to enter into and restore the Premises issued by any Governmental Authority having jurisdiction over the use, storage, handling, treatment, generation, release, disposal, removal or remediation of Hazardous Materials (as defined in Section 30) in, on or about the Premises (collectively referred to herein as "**Hazardous Materials Clearances**"); provided, however, that if repair or restoration of the Premises is not substantially complete as of the end of the Maximum Restoration Period or, if longer, the Restoration Period, Tenant may by written notice to Landlord delivered within 10 days of the expiration of the Maximum Restoration Period or, if longer, the Restoration Period, elect to terminate this Lease, in which event Landlord shall be relieved of its obligation to make such repairs or restoration and this Lease shall terminate as of the date that is 75 days after the later of: (i) discovery of such damage or destruction, or (ii) the date all required Hazardous Materials Clearances are obtained, but Landlord shall retain any Rent paid and the right to any Rent payable by Tenant prior to such election by Landlord or Tenant.

Tenant, at its expense, shall promptly perform, subject to delays arising from the collection of insurance proceeds, from Force Majeure events or to obtain Hazardous Material Clearances, all repairs or restoration not required to be done by Landlord and shall promptly re-enter the Premises and commence doing business in accordance with this Lease. Notwithstanding the foregoing, either Landlord or Tenant may terminate this Lease upon written notice to the other if the Premises are damaged during the last year of the Term and Landlord reasonably estimates that it will take more than 2 months to repair such damage; provided, however, that such notice is delivered within 10 business days after the date that Landlord provides Tenant with written notice of the estimated Restoration Period. Notwithstanding anything to the contrary contained herein, Landlord shall also have the right to terminate this Lease if insurance proceeds are not available for such restoration. Rent shall be abated from the date all required Hazardous Material Clearances are obtained until the Premises are repaired and restored, in the proportion which the area of the Premises, if any, which is not usable by Tenant bears to the total area of the Premises, unless Landlord

provides Tenant with other space during the period of repair that is suitable for the temporary conduct of Tenant's business. In the event that no Hazardous Material Clearances are required to be obtained by Tenant with respect to the Premises, rent abatement shall commence on the date of discovery of the damage or destruction. Such abatement shall be the sole remedy of Tenant, and except as provided in this Section 18, Tenant waives any right to terminate this Lease by reason of damage or casualty loss.

The provisions of this Lease, including this Section 18, constitute an express agreement between Landlord and Tenant with respect to any and all damage to, or destruction of, all or any part of the Premises, or any other portion of the Project, and any statute or regulation which is now or may hereafter be in effect shall have no application to this Lease or any damage or destruction to all or any part of the Premises or any other portion of the Project, the parties hereto expressly agreeing that this Section 18 sets forth their entire understanding and agreement with respect to such matters.

19. **Condemnation**. If the whole or any material part of the Premises or the Project is taken for any public or quasi-public use under governmental law, ordinance, or regulation, or by right of eminent domain, or by private purchase in lieu thereof (a "**Taking**" or "**Taken**"), and the Taking would in Landlord's reasonable judgment materially interfere with or impair Landlord's ownership or operation of the Project, or would in the reasonable judgment of Landlord and Tenant either prevent or materially interfere with Tenant's use of the Premises (as resolved, if the parties are unable to agree, by arbitration by a single arbitrator with the qualifications and experience appropriate to resolve the matter and appointed pursuant to and acting in accordance with the rules of the American Arbitration Association), then upon written notice by Landlord or Tenant to the other this Lease shall terminate and Rent shall be apportioned as of said date. If part of the Premises shall be Taken, and this Lease is not terminated as provided above, Landlord shall promptly restore the Premises and the Project as nearly as is commercially reasonable under the circumstances to their condition prior to such partial Taking and the rentable square footage of the Building, the rentable square footage of the Premises, Tenant's Share of Operating Expenses and the Rent payable hereunder during the unexpired Term shall be reduced to such extent as may be fair and reasonable under the circumstances. Upon any such Taking, Landlord shall be entitled to receive the entire price or award from any such Taking without any payment to Tenant, and Tenant hereby assigns to Landlord Tenant's interest, if any, in such award. Tenant shall have the right, to the extent that same shall not diminish Landlord's award, to make a separate claim against the condemning authority (but not Landlord) for such compensation as may be separately awarded or recoverable by Tenant for moving expenses and damage to Tenant's trade fixtures, if a separate award for such items is made to Tenant. Tenant hereby waives any and all rights it might otherwise have pursuant to any provision of state law to terminate this Lease upon a partial Taking of the Premises or the Project.

20. **Events of Default**. Each of the following events shall be a default ("**Default**") by Tenant under this Lease:

(a) **Payment Defaults**. Tenant shall fail to pay any installment of Rent or any other payment hereunder when due; provided, however, that Landlord will give Tenant notice and an opportunity to cure any failure to pay Rent within 5 days of any such notice not more than twice in any 12 month period and Tenant agrees that such notice shall be in lieu of and not in addition to, or shall be deemed to be, any notice required by law.

(b) **Insurance**. Any insurance required to be maintained by Tenant pursuant to this Lease shall be canceled or terminated or shall expire or shall be reduced or materially changed, or Landlord shall receive a notice of nonrenewal of any such insurance and Tenant shall fail to obtain replacement insurance at least 5 days before the expiration of the current coverage.

(c) **Abandonment**. Tenant shall abandon the Premises. Tenant shall not be deemed to have abandoned the Premises if Tenant provides Landlord with reasonable advance notice prior to vacating and, at the time of vacating the Premises, (i) Tenant completes Tenant's obligations under the Decommissioning and HazMat Closure Plan in compliance with Section 28, (ii) Tenant has obtained the release of the Premises of all Hazardous Materials Clearances and the Premises are free from any residual impact from

the Tenant HazMat Operations and provides reasonably detailed documentation to Landlord confirming such matters, (iii) Tenant has made reasonable arrangements with Landlord for the security of the Premises for the balance of the Term, and (iv) Tenant continues during the balance of the Term to satisfy and perform all of Tenant's obligations under this Lease as they come due.

(d) **Improper Transfer**. Tenant shall assign, sublease or otherwise transfer or attempt to transfer all or any portion of Tenant's interest in this Lease or the Premises except as expressly permitted herein, or Tenant's interest in this Lease shall be attached, executed upon, or otherwise judicially seized and such action is not released within 90 days of the action.

(e) **Liens**. Tenant shall fail to discharge or otherwise obtain the release of any lien placed upon the Premises in violation of this Lease within the time period required pursuant to Section 15 of this Lease.

(f) **Insolvency Events**. Tenant or any guarantor or surety of Tenant's obligations hereunder shall: (A) make a general assignment for the benefit of creditors; (B) commence any case, proceeding or other action seeking to have an order for relief entered on its behalf as a debtor or to adjudicate it a 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 (collectively a "**Proceeding for Relief**"); (C) become the subject of any Proceeding for Relief which is not dismissed within 90 days of its filing or entry; or (D) die or suffer a legal disability (if Tenant, guarantor, or surety is an individual) or be dissolved or otherwise fail to maintain its legal existence (if Tenant, guarantor or surety is a corporation, partnership or other entity).

(g) **Estoppel Certificate or Subordination Agreement**. Tenant fails to execute any document required from Tenant under Sections 23 or 27 within 5 days after a second notice requesting such document.

(h) **Other Defaults**. Tenant shall fail to comply with any provision of this Lease other than those specifically referred to in this Section 20, and, except as otherwise expressly provided herein, such failure shall continue for a period of 30 days after written notice thereof from Landlord to Tenant.

Any notice given under Section 20(h) hereof shall: (i) specify the alleged default, (ii) demand that Tenant cure such default, (iii) be in lieu of, and not in addition to, or shall be deemed to be, any notice required under any provision of applicable law, and (iv) not be deemed a forfeiture or a termination of this Lease unless Landlord elects otherwise in such notice; provided that if the nature of Tenant's default pursuant to Section 20(h) is such that it cannot be cured by the payment of money and reasonably requires more than 30 days to cure, then Tenant shall not be deemed to be in default if Tenant commences such cure within said 30 day period and thereafter diligently prosecutes the same to completion; provided, however, that, upon request by Landlord from time to time, Tenant shall provide Landlord with detailed written status reports regarding the status of such cure and the actions being taken by Tenant. Notwithstanding the foregoing, if such cure affects any other tenant(s) of the Building or the Project, then such cure must be completed as soon as reasonably possible after the date of Landlord's notice.

21. **Landlord's Remedies**.

(a) **Payment By Landlord; Interest**. Upon a Default by Tenant hereunder, Landlord may, without waiving or releasing any obligation of Tenant hereunder, make such payment or perform such act. All sums so paid or incurred by Landlord, together with interest thereon, from the date such sums were paid or incurred, at the annual rate equal to 12% per annum or the highest rate permitted by law (the "**Default Rate**"), whichever is less, shall be payable to Landlord on demand as Additional Rent. Nothing herein shall be construed to create or impose a duty on Landlord to mitigate any damages resulting from Tenant's Default hereunder.

(a) **Late Payment Rent**. Late payment by Tenant to Landlord of Rent and other sums due will cause Landlord to incur costs not contemplated by this Lease, the exact amount of which will be

extremely difficult and impracticable to ascertain. Such costs include, but are not limited to, processing and accounting charges and late charges which may be imposed on Landlord under any Mortgage covering the Premises. Therefore, if any installment of Rent due from Tenant is not received by Landlord within 5 days after the date such payment is due, Tenant shall pay to Landlord an additional sum of 6% of the overdue Rent as a late charge. Notwithstanding the foregoing, before assessing a late charge the first time in any calendar year, Landlord shall provide Tenant written notice of the delinquency and will waive the right if Tenant pays such delinquency within 5 days thereafter. The parties agree that this late charge represents a fair and reasonable estimate of the costs Landlord will incur by reason of late payment by Tenant. In addition to the late charge, Rent not paid when due shall bear interest at the Default Rate from the 5th day after the date due until paid.

(b) **Remedies**. Upon the occurrence of a Default, Landlord, at its option, without further notice or demand to Tenant, shall have in addition to all other rights and remedies provided in this Lease, at law or in equity, the option to pursue any one or more of the following remedies, each and all of which shall be cumulative and nonexclusive, without any notice or demand whatsoever (except as otherwise expressly provided in Section 21(c)(v) with respect to Landlord's Lump Sum Election). No cure in whole or in part of such Default by Tenant after Landlord has taken any action beyond giving Tenant notice of such Default to pursue any remedy provided for herein (including retaining counsel to file an action or otherwise pursue any remedies) shall in any way affect Landlord's right to pursue such remedy or any other remedy provided Landlord herein or under law or in equity, unless Landlord, in its sole discretion, elects to waive such Default.

(i) This Lease and the Term and estate hereby granted are subject to the limitation that whenever a Default shall have happened and be continuing, Landlord shall have the right, at its election, then or thereafter while any such Default shall continue and notwithstanding the fact that Landlord may have some other remedy hereunder or at law or in equity, to give Tenant written notice of Landlord's intention to terminate this Lease on a date specified in such notice, which date shall be not less than 5 days after the giving of such notice, and upon the date so specified, this Lease and the estate hereby granted shall expire and terminate with the same force and effect as if the date specified in such notice were the date hereinbefore fixed for the expiration of this Lease, and all rights of Tenant hereunder shall expire and terminate, and Tenant shall be liable as hereinafter in this Section 21(c) provided. If any such notice is given, Landlord shall have, on such date so specified, the right of re-entry and possession of the Premises and the right to remove all persons and property therefrom and to store such property in a warehouse or elsewhere at the risk and expense, and for the account, of Tenant. Should Landlord elect to re-enter as herein provided or should Landlord take possession pursuant to legal proceedings or pursuant to any notice provided for by law, Landlord may, subject to Section 21(c)(ii) from time to time re-let the Premises or any part thereof for such term or terms and at such rental or rentals and upon such terms and conditions as Landlord may deem advisable, with the right to make commercially reasonable alterations in and repairs to the Premises.

(ii) Landlord shall be deemed to have satisfied any obligation to mitigate its damages by hiring an experienced commercial real estate broker to market the Premises and directing such broker to advertise and show the Premises to prospective tenants.

(iii) In the event of any termination of this Lease as in this Section 21 provided or as required or permitted by law or in equity, Tenant shall forthwith quit and surrender the Premises to Landlord, and Landlord may, without further notice, enter upon, re-enter, possess and repossess the same by summary proceedings, ejectment or otherwise, and again have, repossess and enjoy the same free of any rights of Tenant, and in any such event Tenant and no person claiming through or under Tenant by virtue of any law or an order of any court shall be entitled to possession or to remain in possession of the Premises.

(iv) If this Lease is terminated or if Landlord shall re-enter the Premises as aforesaid, or in the event of the termination of this Lease, or of re-entry, by or under any proceeding or action or any provision of law by reason of a Default by Tenant, Tenant covenants and agrees forthwith to pay

and be liable for, on the days originally fixed in this Lease for the payment thereof, amounts equal to the installments of Base Rent and all Additional Rent as they would, under the terms of this Lease become due if this Lease had not been terminated or if Landlord had not entered or re-entered, as aforesaid, and whether the Premises be relet or remain vacant, in whole or in part, or for a period less than the remainder of the Term, or for the whole thereof, but in the event that the Premises be relet by Landlord, Tenant shall be entitled to a credit in the net amount of rent and other charges received by Landlord in reletting, after deduction of all of Landlord's expenses incurred in reletting the Premises (including, without limitation, tenant improvement, demising and remodeling costs, brokerage fees and the like), and in collecting the rent in connection therewith, in the following manner: Amounts received by Landlord after reletting, if any, shall first be applied against such Landlord's expenses, until the same are recovered, and until such recovery, Tenant shall pay, as of each day when a payment would fall due under this Lease, the amount which Tenant is obligated to pay under the terms of this Lease (Tenant's liability prior to any such reletting and such recovery by Landlord no in any way to be diminished as a result of the fact that such reletting might be for a rent higher than the rent provided for in this Lease); when and if such expenses have been completely recovered by Landlord, the amounts received from reletting by Landlord as have not previously been applied shall be credited against Tenant's obligations as of each day when a payment would fall due under this Lease, and only the net amount thereof shall be payable by Tenant. Further, Tenant shall not be entitled to any credit of any kind for any period after the date when the Term of this Lease is scheduled to expire according to its terms.

Actions, proceedings or suits for the recovery of damages, whether liquidated or other damages, under this Lease, or any installments thereof, may be brought by Landlord from time to time at its election, and nothing contained herein shall be deemed to require Landlord to postpone suit until the date when the Term of this Lease would have expired if it had not been terminated hereunder.

(v) In addition, Landlord, at its election, notwithstanding any other provision of this Lease, by written notice to Tenant (the "**Lump Sum Election**"), shall be entitled to recover from Tenant, as and for liquidated damages, at any time following any termination of this Lease, a lump sum payment representing, at the time of Landlord's written notice of its Lump Sum Election, the sum of:

(A) the then present value (calculated in accordance with accepted financial practice using as the discount rate the yield to maturity on United States Treasury Notes as set forth below) of the amount of unpaid Base Rent and Additional Rent that would have been payable pursuant to this Lease for the remainder of the Term following Landlord's Lump Sum Election if this Lease had not been terminated, and

(B) all other damages and expenses (including attorneys' fees and expenses), if any, which Landlord shall have sustained by reason of the breach of any provision of this Lease; less

(C) the then present value (calculated in accordance with accepted financial practice using as the discount rate the yield to maturity on United States Treasury Notes as set forth below) of the aggregate net fair market rent plus additional charges payable for the Premises (if less than the then present value of Base Rent and Additional Rent that would have been payable pursuant to this Lease) for the remainder of the Term following Landlord's Lump Sum Election, calculated as of the date of Landlord's Lump Sum Election, and taking into account reasonable estimates of the future costs to relet any then vacant portions of the Premises (except to the extent that Tenant has actually paid such costs pursuant to this Section 21) in order to calculate the net rental revenue that Landlord may expect to obtain for the Premises for the balance of the Term.

Landlord's recovery under its Lump Sum Election shall be in addition to Tenant's obligations to pay Base Rent and Additional Rent due and costs incurred prior to the date of Landlord's Lump Sum Election, and in lieu of any Base Rent and Additional Rent which would otherwise have been due under this Section from and after the date of Landlord's Lump Sum Election. The yield to maturity on United States Treasury Notes having a maturity date that is nearest the date that would have been the last day of the Term of this Lease, as reported in the Wall Street Journal or a comparable publication if it ceases to publish such yields, shall be used in calculating present values for purposes of Landlord's Lump Sum Election. For the purposes of this Section, if Landlord makes the Lump Sum Election to recover liquidated damages in accordance with this Section, the total Additional Rent shall be computed based upon Landlord's reasonable estimate of Tenant's Share of Operating Expenses and other Additional Rent for each 12-month period in what would have been the remainder of the Term of this Lease and any part thereof at the end of such remainder of the Term, but in no event less than the amounts therefor payable for the twelve (12) calendar months (or if less than twelve (12) calendar months have elapsed since the date hereof, the partial year) immediately preceding the date of Landlord's Lump Sum Election. Amounts of Tenant's Share of Operating Expenses and any other Additional Rent for any partial year at the beginning of the Term or at the end of what would have been the remainder of the Term shall be prorated.

(vi) Nothing herein contained shall limit or prejudice the right of Landlord, in any bankruptcy or insolvency proceeding, to prove for and obtain as liquidated damages by reason of such termination an amount equal to the maximum allowed by any bankruptcy or insolvency proceedings, or to prove for and obtain as liquidated damages by reason of such termination, an amount equal to the maximum allowed by any statute or rule of law, whether such amount shall be greater or less than the excess referred to above.

(vii) Nothing in this Section 21 shall be deemed to affect the right of either party to indemnifications pursuant to this Lease.

(viii) If Landlord terminates this Lease upon the occurrence of a Default, Tenant will quit and surrender the Premises to Landlord or its agents, and Landlord may, without further notice, enter upon, re-enter and repossess the Premises by summary proceedings, ejectment or otherwise. The words "enter", "re-enter", and "re-entry" are not restricted to their technical legal meanings.

(ix) If Tenant shall be in default in the observance or performance of any provision of this Lease, and an action shall be brought for the enforcement thereof in which it shall be determined that Tenant was in default, Tenant shall pay to Landlord all reasonable, out of pocket fees, costs and other expenses which may become payable as a result thereof or in connection therewith, including reasonable attorneys' fees and expenses.

(x) If default by Tenant shall occur in the keeping, observance or performance of any covenant, agreement, term, provision or condition herein contained, Landlord, without thereby waiving such default, may perform the same for the account and at the expense of Tenant (a) immediately or at any time thereafter and with only such notice, if any, as may be practicable under the circumstances in the case of an emergency or in case such default will result in a violation of any legal or insurance requirements, or in the imposition of any lien against all or any portion of the Premises or the Project not discharged, released or bonded over to Landlord's satisfaction by Tenant within the time period required pursuant to Section 15 of this Lease, and (b) in any other case if such default continues after any applicable notice and cure period provided in Section 20. All reasonable costs and expenses incurred by Landlord in connection with any such performance by it for the account of Tenant and also all reasonable costs and expenses, including attorneys' fees and disbursements incurred by Landlord in any action or proceeding (including any summary dispossess proceeding) brought by Landlord to enforce any obligation of Tenant under this Lease and/or right of Landlord in or to the Premises, shall be paid by Tenant to Landlord within 10 days after demand.

(xi) Independent of the exercise of any other remedy of Landlord hereunder or under applicable law, Landlord may conduct an environmental test of the Premises as generally described in Section 30(d).

(xii) In the event that Tenant is in breach or Default under this Lease, whether or not Landlord exercises its right to terminate or any other remedy, Tenant shall reimburse Landlord upon demand for any out of pocket costs and expenses that Landlord may incur in connection with any such breach or Default, as provided in this Section 21(c). Such costs shall include reasonable legal fees and costs incurred for the negotiation of a settlement, enforcement of rights or otherwise. Tenant shall also indemnify Landlord against and hold Landlord harmless from all costs, expenses, demands and liability, including without limitation, reasonable legal fees and costs Landlord shall incur if Landlord shall become or be made a party to any claim or action instituted by Tenant against any third party, by any third party against Tenant or by or against any person holding any interest under or using the Premises by license of or agreement with Tenant.

Except as otherwise provided in this Section 21, no right or remedy herein conferred upon or reserved to Landlord is intended to be exclusive of any other right or remedy, and every right and remedy shall be cumulative and in addition to any other legal or equitable right or remedy given hereunder, or now or hereafter existing. No waiver by Landlord of any provision of this Lease shall be deemed to have been made unless expressly so made in writing by Landlord expressly waiving such provision. Landlord shall be entitled, to the extent permitted by law, to seek injunctive relief in case of the violation, or attempted or threatened violation, of any provision of this Lease, or to seek a decree compelling observance or performance of any provision of this Lease, or to seek any other legal or equitable remedy.

22. **Assignment and Subletting**.

(a) **General Prohibition**. Without Landlord's prior written consent (which shall be granted or withheld pursuant to the terms Section 22(b) below) subject to and on the conditions described in this Section 22, Tenant shall not, directly or indirectly, voluntarily or by operation of law, assign this Lease or sublease the Premises or any part thereof or mortgage, pledge, or hypothecate its leasehold interest or grant any concession or license within the Premises, and any attempt to do any of the foregoing shall be void and of no effect. If Tenant is a corporation, partnership or limited liability company, the shares or other ownership interests thereof which are not actively traded upon a stock exchange or in the over-the-counter market, a transfer or series of transfers whereby 50% or more of the issued and outstanding shares or other ownership interests of such corporation are, or voting control is, transferred (but excepting transfers upon deaths of individual owners) from a person or persons or entity or entities which were owners thereof at time of execution of this Lease to persons or entities who were not owners of shares or other ownership interests of the corporation, partnership or limited liability company at time of execution of this Lease, shall be deemed an assignment of this Lease requiring the consent of Landlord as provided in this Section 22. Notwithstanding the foregoing, any public offering of shares or other ownership interest in Tenant shall not be deemed an assignment. Notwithstanding the foregoing, any public offering of shares or other ownership interest in Tenant shall not be deemed an assignment.

(b) **Permitted Transfers**. If Tenant desires to assign, sublease, hypothecate or otherwise transfer this Lease or sublet the Premises other than pursuant to a Permitted Assignment (as defined below), then at least 15 business days, but not more than 60 business days, before the date Tenant desires the assignment or sublease to be effective (the "**Assignment Date**"), Tenant shall give Landlord a notice (the "**Assignment Notice**") containing such information about the proposed assignee or sublessee, including the proposed use of the Premises and any Hazardous Materials proposed to be used, stored handled, treated, generated in or released or disposed of from the Premises, the Assignment Date, any relationship between Tenant and the proposed assignee or sublessee, and all material terms and conditions of the proposed assignment or sublease, including a copy of any proposed assignment or sublease in its final form, and such other information as Landlord may deem reasonably necessary or appropriate to its consideration whether to grant its consent. Landlord may, by giving written notice to Tenant within 15 business days after receipt of the Assignment Notice: (i) grant such consent (provided that Landlord shall

further have the right to review and approve or disapprove the proposed form of sublease prior to the effective date of any such subletting), (ii) refuse such consent, in its reasonable discretion; or (iii) with respect to any proposed assignment or transfer of this Lease, or with respect to any proposed subletting for substantially the remainder of the Term of more than 50% of the Premises, terminate this Lease with respect to the space described in the Assignment Notice as of the Assignment Date (an "**Assignment Termination**"). Among other reasons, it shall be reasonable for Landlord to withhold its consent in any of these instances: (1) the proposed assignee or subtenant is a governmental agency; (2) in Landlord's reasonable judgment, the use of the Premises by the proposed assignee or subtenant would entail any alterations that would lessen the value of the leasehold improvements in the Premises, or would require increased services by Landlord; (3) in Landlord's reasonable judgment, the proposed assignee or subtenant is engaged in areas of scientific research or other business concerns that are controversial; (4) in Landlord's reasonable judgment, the proposed assignee or subtenant lacks the creditworthiness to support the financial obligations it will incur under the proposed assignment or sublease; (5) in Landlord's reasonable judgment, the character, reputation, or business of the proposed assignee or subtenant is inconsistent with the desired tenant-mix or the quality of other tenancies in the Project or is inconsistent with the type and quality of the nature of the Building; (6) Landlord has experienced previous defaults by or is in litigation with the proposed assignee or subtenant; (7) the use of the Premises by the proposed assignee or subtenant will violate any applicable Legal Requirement; (8) the proposed assignee or subtenant is an entity with whom Landlord is negotiating to lease space in the Project; or (9) the assignment or sublease is prohibited by Landlord's lender. If Landlord delivers notice of its election to exercise an Assignment Termination, Tenant shall have the right to withdraw such Assignment Notice by written notice to Landlord of such election within 5 business days after Landlord's notice electing to exercise the Assignment Termination. If Tenant withdraws such Assignment Notice, this Lease shall continue in full force and effect. If Tenant does not withdraw such Assignment Notice, this Lease, and the term and estate herein granted, shall terminate as of the Assignment Date with respect to the space described in such Assignment Notice. No failure of Landlord to exercise any such option to terminate this Lease, or to deliver a timely notice in response to the Assignment Notice, shall be deemed to be Landlord's consent to the proposed assignment, sublease or other transfer. Tenant shall pay to Landlord a fee equal to Three Thousand Dollars ($3,000) in connection with its consideration of any Assignment Notice and/or its preparation or review of any consent documents. Notwithstanding the foregoing, Landlord's consent to an assignment of this Lease or a subletting of any portion of the Premises to any entity controlling, controlled by or under common control with Tenant (a "**Control Permitted Assignment**") shall not be required, provided that Tenant and any assignee or sublessee shall execute a reasonable form of acknowledgment of assignment or sublease, as applicable, reasonably acceptable to Landlord. In addition, Tenant shall have the right to assign this Lease, upon 30 days prior written notice to Landlord but without obtaining Landlord's prior written consent, to a corporation or other entity which is a successor-in-interest to Tenant, by way of merger, consolidation or corporate reorganization, or by the purchase of all or substantially all of the assets or the ownership interests of Tenant provided that (i) such merger or consolidation, or such acquisition or assumption, as the case may be, is for a good business purpose and not principally for the purpose of transferring this Lease, and (ii) the net worth (as determined in accordance with generally accepted accounting principles ("**GAAP**")) of the assignee is not less than the greater of the net worth (as determined in accordance with GAAP) of Tenant as of (A) the Commencement Date, or (B) as of the date of Tenant's most current quarterly or annual financial statements, and (iii) such assignee shall agree in writing to assume all of the terms, covenants and conditions of this Lease (a "**Corporate Permitted Assignment**"). Control Permitted Assignments and Corporate Permitted Assignments are hereinafter referred to as "**Permitted Assignments**." Notwithstanding anything to the contrary contained herein, in no event shall Landlord have the right to exercise an Assignment Termination in connection with a Permitted Assignment.

(c) **Additional Conditions**. As a condition to any such assignment or subletting, whether or not Landlord's consent is required, Landlord may require:

(i) that any assignee or subtenant agree, in writing at the time of such assignment or subletting, that if Landlord gives such party notice that Tenant is in default under this Lease, such party shall thereafter make all payments otherwise due Tenant directly to Landlord, which payments will be received by Landlord without any liability except to credit such payment against those due under this Lease, and any such third party shall agree to attorn to Landlord or its successors and

assigns should this Lease be terminated for any reason; provided, however, in no event shall Landlord or its successors or assigns be obligated to accept such attornment; and

(ii) A list of Hazardous Materials, certified by the proposed assignee or sublessee to be true and correct, which the proposed assignee or sublessee intends to use, store, handle, treat, generate in or release or dispose of from the Premises, together with copies of all documents relating to such use, storage, handling, treatment, generation, release or disposal of Hazardous Materials by the proposed assignee or subtenant in the Premises or on the Project, prior to the proposed assignment or subletting, including, without limitation: permits; approvals; reports and correspondence; storage and management plans; plans relating to the installation of any storage tanks to be installed in or under the Project (provided, said installation of tanks shall only be permitted after Landlord has given its written consent to do so, which consent may be withheld in Landlord's sole and absolute discretion); and all closure plans or any other documents required by any and all federal, state and local Governmental Authorities for any storage tanks installed in, on or under the Project for the closure of any such tanks. Neither Tenant nor any such proposed assignee or subtenant is required, however, to provide Landlord with any portion(s) of the such documents containing information of a proprietary nature which, in and of themselves, do not contain a reference to any Hazardous Materials or hazardous activities.

(d) **No Release of Tenant, Sharing of Excess Rents**. Notwithstanding any assignment or subletting, Tenant and any guarantor or surety of Tenant's obligations under this Lease shall at all times remain fully and primarily responsible and liable for the payment of Rent and for compliance with all of Tenant's other obligations under this Lease. Except in connection with a Permitted Assignment, if the rent due and payable by a sublessee or assignee (or a combination of the rental payable under such sublease or assignment plus any bonus or other consideration therefor or incident thereto in any form) exceeds the sum of Base Rent and Operating Expenses payable under this Lease with respect to the applicable portion of the Premises after deducting the reasonable and customary brokerage fees/commissions, legal costs and the cost of design and construction of improvements directly related to and required pursuant to the terms of any such sublease ("**Excess Rent**"), then Tenant shall be bound and obligated to pay Landlord as Additional Rent hereunder 50% of such Excess Rent within 10 days following receipt thereof by Tenant. If Tenant shall sublet the Premises or any part thereof, Tenant hereby immediately and irrevocably assigns to Landlord, as security for Tenant's obligations under this Lease, all rent from any such subletting, and Landlord as assignee and as attorney-in-fact for Tenant, or a receiver for Tenant appointed on Landlord's application, may collect such rent and apply it toward Tenant's obligations under this Lease; except that, until the occurrence of a Default, Tenant shall have the right to collect such rent.

(e) **No Waiver**. The consent by Landlord to an assignment or subletting shall not relieve Tenant or any assignees of this Lease or any sublessees of the Premises from obtaining the consent of Landlord to any further assignment or subletting nor shall it release Tenant or any assignee or sublessee of Tenant from full and primary liability under this Lease. The acceptance of Rent hereunder, or the acceptance of performance of any other term, covenant, or condition thereof, from any other person or entity shall not be deemed to be a waiver of any of the provisions of this Lease or a consent to any subletting, assignment or other transfer of the Premises.

(f) **Prior Conduct of Proposed Transferee**. Notwithstanding any other provision of this Section 22, if (i) the proposed assignee or sublessee of Tenant has been required by any prior landlord, lender or Governmental Authority to take remedial action in connection with Hazardous Materials contaminating a property, where the contamination resulted from such party's action or use of the property in question, (ii) the proposed assignee or sublessee is subject to an 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), or (iii) because of the existence of a pre-existing environmental condition in the vicinity of or underlying the Project, the risk that Landlord would be targeted as a responsible party in connection with the remediation of such pre-existing environmental condition would be materially increased or exacerbated by the proposed use of Hazardous Materials by such proposed assignee or

sublessee, Landlord shall have the absolute right to refuse to consent to any assignment or subletting to any such party.

23. **Estoppel Certificate**. Tenant shall, within 10 business days of written notice from Landlord, execute, acknowledge and deliver a statement in writing in any form reasonably requested by a proposed lender or purchaser, (i) certifying that this Lease is unmodified and in full force and effect (or, if modified, stating the nature of such modification and certifying that this Lease as so modified is in full force and effect) and the dates to which the rental and other charges are paid in advance, if any, (ii) acknowledging that there are not any uncured defaults on the part of Landlord hereunder, or specifying such defaults if any are claimed, and (iii) setting forth such further information with respect to the status of this Lease or the Premises as may be reasonably requested thereon. Any such statement may be relied upon by any prospective purchaser or encumbrancer of all or any portion of the real property of which the Premises are a part. Tenant's failure to deliver such statement within 5 days after Tenant's receipt of a second written notice from Landlord shall, at the option of Landlord, constitute a Default under this Lease, and, in any event, shall be conclusive upon Tenant that this Lease is in full force and effect and without modification except as may be represented by Landlord in any certificate prepared by Landlord and delivered to Tenant for execution.

24. **Quiet Enjoyment**. So long as Tenant is not in Default under this Lease, Tenant shall, subject to the terms of this Lease, at all times during the Term, have peaceful and quiet enjoyment of the Premises against any person claiming by, through or under Landlord.

25. **Prorations**. All prorations required or permitted to be made hereunder shall be made on the basis of a 360 day year and 30 day months.

26. **Rules and Regulations**. Tenant shall, at all times during the Term and any extension thereof, comply with all reasonable rules and regulations at any time or from time to time established by Landlord covering use of the Premises and the Project of which Tenant has been provided written notice. Such rules and regulations may include, without limitation, rules and regulations relating to the use of the Project Amenities and/or rules and regulations which are intended to encourage social distancing, promote and protect health and physical well-being within the Building and the Project and/or intended to limit the spread of Infectious Conditions. The current rules and regulations are attached hereto as **Exhibit E**. If there is any conflict between said rules and regulations and other provisions of this Lease, the terms and provisions of this Lease shall control. Landlord shall not have any liability or obligation for the breach of any rules or regulations by other tenants in the Project and shall not enforce such rules and regulations in a discriminatory manner.

27. **Subordination**. This Lease and Tenant's interest and rights hereunder are hereby made and shall be subject and subordinate at all times to the lien of any Mortgage now existing or hereafter created on or against the Project or the Premises, and all amendments, restatements, renewals, modifications, consolidations, refinancing, assignments and extensions thereof, without the necessity of any further instrument or act on the part of Tenant; provided, however that so long as there is no Default hereunder, Tenant's right to possession of the Premises shall not be disturbed by the Holder of any such Mortgage. Tenant agrees, at the election of the Holder of any such Mortgage, to attorn to any such Holder. Tenant agrees upon demand to execute, acknowledge and deliver such instruments, confirming such subordination, and such instruments of attornment as shall be requested by any such Holder, provided any such instruments contain appropriate non-disturbance provisions assuring Tenant's quiet enjoyment of the Premises as set forth in Section 24 hereof. Notwithstanding the foregoing, any such Holder may at any time subordinate its Mortgage to this Lease, without Tenant's consent, by notice in writing to Tenant, and thereupon this Lease shall be deemed prior to such Mortgage without regard to their respective dates of execution, delivery or recording and in that event such Holder shall have the same rights with respect to this Lease as though this Lease had been executed prior to the execution, delivery and recording of such Mortgage and had been assigned to such Holder. The term "**Mortgage**" whenever used in this Lease shall be deemed to include deeds of trust, security assignments and any other encumbrances, and any reference to the "**Holder**" of a Mortgage shall be deemed to include the beneficiary under a deed of trust. As of the date of this Lease, there is no existing Mortgage encumbering the Project.

Upon written request from Tenant, Landlord agrees to use reasonable efforts to cause the Holder of any future Mortgage to enter into a subordination, non-disturbance and attornment agreement ("**SNDA**") with Tenant with respect to this Lease. The SNDA shall be on the form proscribed by the Holder and Tenant shall pay the Holder's fees and costs in connection with obtaining such SNDA; provided, however, that Landlord shall request that Holder make any reasonable changes to the SNDA requested by Tenant. Landlord's failure to cause the Holder to enter into the SNDA with Tenant (or make any of the changes requested by Tenant) despite such efforts shall not be a default by Landlord under this Lease.

28. **Surrender**. Upon the expiration of the Term or earlier termination of Tenant's right of possession, Tenant shall surrender the Premises to Landlord in substantially the same condition as received, subject to any Alterations or Installations permitted by Landlord to remain in the Premises, free of Hazardous Materials brought upon, kept, used, stored, handled, treated, generated in, or released or disposed of from, the Premises by any person other than Landlord or any Landlord's employees, agents and contractors (collectively, "**Tenant HazMat Operations**") and released of all Hazardous Materials Clearances, broom clean, ordinary wear and tear and casualty loss and condemnation covered by Sections 18 and 19 excepted. At least 3 months prior to the surrender of the Premises or such earlier date as Tenant may elect to cease operations at the Premises, Tenant shall deliver to Landlord a narrative description of the actions proposed (or required by any Governmental Authority) to be taken by Tenant in order to surrender the Premises (including any Installations permitted by Landlord to remain in the Premises) at the expiration or earlier termination of the Term, free from any residual impact from the Tenant HazMat Operations and otherwise released for unrestricted use and occupancy (the "**Decommissioning and HazMat Closure Plan**"). Such Decommissioning and HazMat Closure Plan shall be accompanied by a current listing of (i) all Hazardous Materials licenses and permits held by or on behalf of any Tenant Party with respect to the Premises, and (ii) all Hazardous Materials used, stored, handled, treated, generated, released or disposed of from the Premises, and shall be subject to the review and approval of Landlord's environmental consultant. In connection with the review and approval of the Decommissioning and HazMat Closure Plan, upon the request of Landlord, Tenant shall deliver to Landlord or its consultant such additional non-proprietary information concerning Tenant HazMat Operations as Landlord shall request. On or before such surrender, Tenant shall deliver to Landlord evidence that the approved Decommissioning and HazMat Closure Plan shall have been satisfactorily completed and Landlord shall have the right, subject to reimbursement at Tenant's expense as set forth below, to cause Landlord's environmental consultant to inspect the Premises and perform such additional procedures as may be deemed reasonably necessary to confirm that the Premises are, as of the effective date of such surrender or early termination of this Lease, free from any residual impact from Tenant HazMat Operations. Tenant shall reimburse Landlord, as Additional Rent, for the actual out-of-pocket expense incurred by Landlord for Landlord's environmental consultant to review and approve the Decommissioning and HazMat Closure Plan and to visit the Premises and verify satisfactory completion of the same, which cost shall not exceed $5,000. Landlord shall have the unrestricted right to deliver such Decommissioning and HazMat Closure Plan and any report by Landlord's environmental consultant with respect to the surrender of the Premises to third parties.

If Tenant shall fail to prepare or submit a Decommissioning and HazMat Closure Plan approved by Landlord, or if Tenant shall fail to complete the approved Decommissioning and HazMat Closure Plan, or if such Decommissioning and HazMat Closure Plan, whether or not approved by Landlord, shall fail to adequately address any residual effect of Tenant HazMat Operations in, on or about the Premises, Landlord shall have the right to take such actions as Landlord may deem reasonable or appropriate to assure that the Premises and the Project are surrendered free from any residual impact from Tenant HazMat Operations, the cost of which actions shall be reimbursed by Tenant as Additional Rent, without regard to the limitation set forth in the first paragraph of this Section 28.

At the expiration or earlier termination of the Term, Tenant shall immediately return to Landlord all keys and/or access cards to parking, the Project, restrooms or all or any portion of the Premises furnished to or otherwise procured by Tenant. If any such access card or key is lost, Tenant shall pay to Landlord, at Landlord's election, either the cost of replacing such lost access card or key or the cost of reprogramming the access security system in which such access card was used or changing the lock or locks opened by such lost key. Any Tenant's Property, Alterations and property not so removed by Tenant as permitted or required herein shall be deemed abandoned and may be stored, 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/or disposition of such property. All obligations of Tenant hereunder not fully performed as of the termination of the Term, including the obligations of Tenant under Section 30 hereof, shall survive the expiration or earlier termination of the Term, including, without limitation, indemnity obligations, payment obligations with respect to Rent and obligations concerning the condition and repair of the Premises.

29. **Waiver of Jury Trial**. TO THE EXTENT PERMITTED BY LAW, TENANT AND LANDLORD WAIVE ANY RIGHT TO TRIAL BY JURY OR TO HAVE A JURY PARTICIPATE IN RESOLVING ANY DISPUTE, WHETHER SOUNDING IN CONTRACT, TORT, OR OTHERWISE, BETWEEN LANDLORD AND TENANT ARISING OUT OF THIS LEASE OR ANY OTHER INSTRUMENT, DOCUMENT, OR AGREEMENT EXECUTED OR DELIVERED IN CONNECTION HEREWITH OR THE TRANSACTIONS RELATED HERETO.

30. **Environmental Requirements**.

(a) **Prohibition/Compliance/Indemnity**. Tenant shall not cause or permit any Hazardous Materials (as hereinafter defined) to be brought upon, kept, used, stored, handled, treated, generated in or about, or released or disposed of from, the Premises or the Project in violation of applicable Environmental Requirements (as hereinafter defined) by Tenant or any Tenant Party. If Tenant breaches the obligation stated in the preceding sentence, or if the presence of Hazardous Materials in the Premises during the Term or any holding over results in contamination of the Premises, the Project or any adjacent property or if contamination of the Premises, the Project or any adjacent property by Hazardous Materials brought into, kept, used, stored, handled, treated, generated in or about, or released or disposed of from, the Premises by anyone other than Landlord and Landlord's employees, agents and contractors otherwise occurs during the Term or any holding over, Tenant hereby indemnifies and shall defend and hold Landlord, its officers, directors, employees, agents and contractors harmless from any and all actions (including, without limitation, remedial or enforcement actions of any kind, administrative or judicial proceedings, and orders or judgments arising out of or resulting therefrom), costs, claims, damages (including, without limitation, punitive damages and damages based upon diminution in value of the Premises or the Project, or the loss of, or restriction on, use of the Premises or any portion of the Project), expenses (including, without limitation, attorneys', consultants' and experts' fees, court costs and amounts paid in settlement of any claims or actions), fines, forfeitures or other civil, administrative or criminal penalties, injunctive or other relief (whether or not based upon personal injury, property damage, or contamination of, or adverse effects upon, the environment, water tables or natural resources), liabilities or losses which arise during or after the Term as a result of such contamination. This indemnification of Landlord by Tenant includes, without limitation, costs incurred in connection with any investigation of site conditions or any cleanup, treatment, remedial, removal, or restoration work required by any federal, state or local Governmental Authority because of Hazardous Materials present in the air, soil or ground water above, on, or under the Premises. Without limiting the foregoing, if the presence of any Hazardous Materials on the Premises, the Project or any adjacent property caused or permitted by Tenant or any Tenant Party results in any contamination of the Premises, the Project or any adjacent property, Tenant shall promptly take all actions at its sole expense and in accordance with applicable Environmental Requirements as are necessary to return the Premises, the Project or any adjacent property to the condition existing prior to the time of such contamination, provided that Landlord's approval of such action shall first be obtained, which approval shall not unreasonably be withheld so long as such actions would not potentially have any material adverse long-term or short-term effect on the Premises or the Project. Notwithstanding anything to the contrary contained in this Section 30, Tenant shall not be responsible for, and the indemnification and hold harmless obligation set forth in this paragraph shall not apply to (i) contamination in the Premises which Tenant can prove to Landlord's reasonable satisfaction existed in the Premises immediately prior to the Commencement Date, or (ii) the presence of any Hazardous Materials in the Premises which Tenant can prove to Landlord's reasonable satisfaction migrated from outside of the Premises into the Premises, unless in either case, the presence of such Hazardous Materials (x) is the result of a breach by Tenant of any of its obligations under this Lease, or (y) was caused, contributed to or exacerbated by Tenant or any Tenant Party.

(b) **Business**. Landlord acknowledges that it is not the intent of this Section 30 to prohibit Tenant from using the Premises for the Permitted Use. Tenant may operate its business according to prudent industry practices so long as the use or presence of Hazardous Materials is strictly and properly monitored according to all then applicable Environmental Requirements. As a material inducement to Landlord to allow Tenant to use Hazardous Materials in connection with its business, Tenant agrees to deliver to Landlord prior to the Commencement Date a list identifying each type of Hazardous Materials to be brought upon, kept, used, stored, handled, treated, generated on, or released or disposed of from, the Premises and setting forth any and all governmental approvals or permits required in connection with the presence, use, storage, handling, treatment, generation, release or disposal of such Hazardous Materials on or from the Premises ("**Hazardous Materials List**"). Upon Landlord's request, or any time that Tenant is required to deliver a Hazardous Materials List to any Governmental Authority (e.g., the fire department) in connection with Tenant's use or occupancy of the Premises, Tenant shall deliver to Landlord a copy of such Hazardous Materials List. Tenant shall deliver to Landlord true and correct copies of the following documents (the "**Haz Mat Documents**") relating to the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials prior to the Commencement Date, or if unavailable at that time, concurrent with the receipt from or submission to a Governmental Authority: permits; approvals; reports and correspondence; storage and management plans, notice of violations of any Legal Requirements; plans relating to the installation of any storage tanks to be installed in or under the Project (provided, said installation of tanks shall only be permitted after Landlord has given Tenant its written consent to do so, which consent may be withheld in Landlord's sole and absolute discretion); all closure plans or any other documents required by any and all federal, state and local Governmental Authorities for any storage tanks installed in, on or under the Project for the closure of any such tanks; and a Decommissioning and HazMat Closure Plan (to the extent surrender in accordance with Section 28 cannot be accomplished in 3 months). Tenant is not required, however, to provide Landlord with any portion(s) of the Haz Mat Documents containing information of a proprietary nature which, in and of themselves, do not contain a reference to any Hazardous Materials or hazardous activities. It is not the intent of this Section to provide Landlord with information which could be detrimental to Tenant's business should such information become possessed by Tenant's competitors.

(c) **Tenant Representation and Warranty**. Tenant hereby represents and warrants to Landlord that (i) neither Tenant nor any of its legal predecessors has been required by any prior landlord, lender or Governmental Authority at any time to take remedial action in connection with Hazardous Materials contaminating a property which contamination was permitted by Tenant of such predecessor or resulted from Tenant's or such predecessor's action or use of the property in question, and (ii) Tenant 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 Landlord determines that this representation and warranty was not true as of the date of this lease, Landlord shall have the right to terminate this Lease in Landlord's sole and absolute discretion.

(d) **Testing**. Landlord shall have the right to conduct annual tests of the Premises to determine whether any contamination of the Premises or the Project has occurred as a result of Tenant's use. Such annual testing shall be at Landlord's sole cost and expense and excluded from Operating Expenses; provided, however, Tenant shall be required to pay the cost of such annual test of the Premises if there is violation of this Section 30 or if contamination for which Tenant is responsible under this Section 30 is identified; provided, however, that if Tenant conducts its own tests of the Premises using third party contractors and test procedures acceptable to Landlord which tests are certified to Landlord, Landlord shall accept such tests in lieu of the annual tests to be paid for by Tenant. In addition, at any time, and from time to time, prior to the expiration or earlier termination of the Term, Landlord shall have the right to conduct appropriate tests of the Premises and the Project to determine if contamination has occurred as a result of Tenant's use of the Premises. In connection with such testing, upon the request of Landlord, Tenant shall deliver to Landlord or its consultant such non-proprietary information concerning the use of Hazardous Materials in or about the Premises by Tenant or any Tenant Party. If contamination has occurred for which Tenant is liable under this Section 30, Tenant shall pay all costs to conduct such tests. If no such contamination is found, Landlord shall pay the costs of such tests (which shall not constitute an Operating Expense). Landlord shall provide Tenant with a copy of all third party, non-confidential reports and tests of the Premises made by or on behalf of Landlord during the Term without representation or warranty and

subject to a confidentiality agreement. Tenant shall, at its sole cost and expense, promptly and satisfactorily remediate any environmental conditions identified by such testing in accordance with all Environmental Requirements. Landlord's receipt of or satisfaction with any environmental assessment in no way waives any rights which Landlord may have against Tenant.

(e) **Control Areas**. Tenant shall be allowed to utilize up to its pro rata share of the Hazardous Materials inventory within any control area or zone (located within the Premises), as designated by the applicable building code, for chemical use or storage. As used in the preceding sentence, Tenant's pro rata share of any control areas or zones located within the Premises shall be determined based on the rentable square footage that Tenant leases within the applicable control area or zone. For purposes of example only, if a control area or zone contains 10,000 rentable square feet and 2,000 rentable square feet of a tenant's premises are located within such control area or zone (while such premises as a whole contains 5,000 rentable square feet), the applicable tenant's pro rata share of such control area would be 20%. Notwithstanding the foregoing, subject to Landlord's review and approval of plans and specifications thereof (which approval shall not be unreasonably withheld, conditioned or delayed) and Tenant's operation thereof in compliance with all Legal Requirements, in the event the Premises includes areas separate from such control areas which are classified as High Hazard 3 under the International Building Code or International Fire Code ("**H-3 Areas**"), any amounts of Hazardous Materials used or stored by Tenant in such H-3 Areas shall be in addition to the maximum amount of Hazardous Materials which Tenant may store in such control areas described herein.

(f) **Storage Tanks**. If storage tanks storing Hazardous Materials located on the Premises or the Project are used by Tenant or are hereafter placed on the Premises or the Project by Tenant, Tenant shall install, use, monitor, operate, maintain, upgrade and manage such storage tanks, maintain appropriate records, obtain and maintain appropriate insurance, implement reporting procedures, properly close any storage tanks, and take or cause to be taken all other actions necessary or required under applicable state and federal Legal Requirements, as such now exists or may hereafter be adopted or amended in connection with the installation, use, maintenance, management, operation, upgrading and closure of such storage tanks. Notwithstanding anything to the contrary contained herein, Tenant shall have no right to use or install any underground storage tanks at the Project.

(g) **Tenant's Obligations**. Tenant's obligations under this Section 30 shall survive the expiration or earlier termination of the Lease. During any period of time after the expiration or earlier termination of this Lease required by Tenant or Landlord to complete the removal from the Premises of any Hazardous Materials (including, without limitation, the release and termination of any licenses or permits restricting the use of the Premises and the completion of the approved Decommissioning and HazMat Closure Plan), Tenant shall continue to pay the full Rent in accordance with this Lease for any portion of the Premises not relet by Landlord in Landlord's sole discretion, which Rent shall be prorated daily.

(h) **Definitions**. As used herein, the term "**Environmental Requirements**" means all applicable present and future statutes, regulations, ordinances, rules, codes, judgments, orders or other similar enactments of any Governmental Authority regulating or relating to health, safety, or environmental conditions on, under, or about the Premises or the Project, or the environment, including without limitation, the following: the Comprehensive Environmental Response, Compensation and Liability Act; the Resource Conservation and Recovery Act; and all state and local counterparts thereto, and any regulations or policies promulgated or issued thereunder. As used herein, the term "**Hazardous Materials**" means and includes any substance, material, waste, pollutant, or contaminant listed or defined as hazardous or toxic, or regulated by reason of its impact or potential impact on humans, animals and/or the environment under any Environmental Requirements, asbestos and petroleum, including crude oil or any fraction thereof, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas). As defined in Environmental Requirements, Tenant is and shall be deemed to be the "**operator**" of Tenant's "**facility**" and the "**owner**" of all Hazardous Materials brought on the Premises by Tenant or any Tenant Party, and the wastes, by-products, or residues generated, resulting, or produced therefrom.

31. **Tenant's Remedies/Limitation of Liability**. Landlord shall not be in default hereunder unless Landlord fails to perform any of its obligations hereunder within 30 days after written notice from Tenant specifying such failure (unless such performance will, due to the nature of the obligation, require a period of time in excess of 30 days, then after such period of time as is reasonably necessary so long as Landlord has commenced such performance within such 30 day period and has diligently and consistently proceeded with such performance). Upon any default by Landlord, Tenant shall give notice by registered or certified mail to any Holder of a Mortgage covering the Premises and to any landlord of any lease of property in or on which the Premises are located and Tenant shall offer such Holder and/or landlord a reasonable opportunity to cure the default, including time to obtain possession of the Project by power of sale or a judicial action if such should prove necessary to effect a cure; provided Landlord shall have furnished to Tenant in writing the names and addresses of all such persons who are to receive such notices. All obligations of Landlord hereunder shall be construed as covenants, not conditions; and, except as may be otherwise expressly provided in this Lease, Tenant may not terminate this Lease for breach of Landlord's obligations hereunder.

Notwithstanding the foregoing, if any claimed Landlord default hereunder will immediately, materially and adversely affect Tenant's ability to conduct its business in the Premises (a "**Material Landlord Default**"), Tenant shall, as soon as reasonably possible, but in any event within 2 business days of obtaining knowledge of such claimed Material Landlord Default, give Landlord written notice of such claim which notice shall specifically state that a Material Landlord Default exists and telephonic notice to Tenant's principal contact with Landlord. Landlord shall then have 2 business days to commence cure of such claimed Material Landlord Default and shall diligently prosecute such cure to completion. If such claimed Material Landlord Default is not a default by Landlord hereunder, Landlord shall be entitled to recover from Tenant, as Additional Rent, any costs incurred by Landlord in connection with such cure in excess of the costs, if any, that Landlord would otherwise have been liable to pay hereunder. If Landlord fails to commence cure of any claimed Material Landlord Default or to diligently prosecute such cure as provided above, Tenant may commence and prosecute such cure to completion provided that it does not affect any Building Systems affecting other tenants, materially, adversely affect Building structure or Common Areas, and shall be entitled to recover the costs of such cure (but not any consequential or other damages) from Landlord by way of reimbursement from Landlord with no right to offset against Rent, to the extent of Landlord's obligation to cure such claimed Material Landlord Default hereunder, subject to the limitations set forth in the immediately preceding sentence of this paragraph and the other provisions of this Lease.

All obligations of Landlord under this Lease will be binding upon Landlord only during the period of its ownership of the Premises and not thereafter; provided, however, Landlord's obligations with respect to the Security Deposit shall survive until Landlord has either returned same to Tenant or transferred such Security Deposit to Landlord's successor in interest. The term "**Landlord**" in this Lease shall mean only the owner for the time being of the Premises. Upon the transfer by such owner of its interest in the Premises, such owner shall thereupon be released and discharged from all obligations of Landlord thereafter accruing, but such obligations shall be binding during the Term upon each new owner for the duration of such owner's ownership.

32. **Inspection and Access**. Landlord and its agents, representatives, and contractors may enter the Premises at any reasonable time to inspect the Premises and to make such repairs as may be required or permitted pursuant to this Lease and for any other business purpose. Landlord and Landlord's representatives may enter the Premises during business hours on not less than 48 hours advance written notice (except in the case of emergencies in which case no such notice shall be required and such entry may be at any time) for the purpose of effecting any such repairs, inspecting the Premises, showing the Premises to prospective purchasers and, during the last 18 months of the Term, to prospective tenants or for any other business purpose. Landlord may grant easements, make public dedications, designate Common Areas and create restrictions on or about the Premises, provided that no such easement, dedication, designation or restriction materially, adversely affects Tenant's use or occupancy of the Premises for the Permitted Use. At Landlord's request, Tenant shall execute such instruments as may be necessary for such easements, dedications or restrictions. Tenant shall at all times, except in the case of emergencies, have the right to escort Landlord or its agents, representatives, contractors or guests while the same are in the Premises, provided such escort does not materially and adversely affect Landlord's

access rights hereunder. Landlord shall use reasonable efforts to comply with Tenant's reasonable security, confidentiality and safety requirements with respect to entering restricted portions of the Premises; provided, however, that Tenant has notified Landlord of such security, confidentiality and safety requirements reasonably prior to Landlord's entry into the Premises and provided further that in no event shall Tenant bar or prohibit access by Landlord and its employees, agents and contractors for the performance of the obligations of Landlord or the exercise of the rights of Landlord under this Lease.

Notwithstanding the foregoing, Tenant shall have the right to designate (on plans provided by Tenant to Landlord, which may be reasonably updated by Tenant from time to time upon notice to Landlord) certain areas of the Premises as limited access areas required to protect the health of persons or security of confidential and proprietary information ("**Limited Access Areas**"), which Limited Access Areas shall not be entered into by Landlord or Landlord's representatives without a Tenant representative, except in the case of an emergency. Notwithstanding anything to the contrary contained in this Lease, Landlord shall only enter such Limited Access Areas to perform maintenance and repairs (i) for which Landlord is responsible under this Lease, or (ii) in response to specific requests by Tenant, which requests remain subject to Landlord's approval.

33. **Security**. Tenant acknowledges and agrees that security devices and services, if any, while intended to deter crime may not in given instances prevent theft or other criminal acts and that Landlord is not providing any security services with respect to the Premises. Tenant agrees that Landlord shall not be liable to Tenant for, and Tenant waives any claim against Landlord with respect to, any loss by theft or any other damage suffered or incurred by Tenant in connection with any unauthorized entry into the Premises or any other breach of security with respect to the Premises. Tenant shall be solely responsible for the personal safety of Tenant's officers, employees, agents, contractors, guests and invitees while any such person is in, on or about the Premises and/or the Project. Tenant shall at Tenant's cost obtain insurance coverage to the extent Tenant desires protection against such criminal acts.

Subject to the terms of this Lease including, without limitation, Section 12, Tenant, at Tenant's sole cost and expense, shall have the right to install and maintain within the Premises such security and safety equipment, including, without limitation, electronic access gates, camera surveillance and other security devices (collectively, "**Tenant's Security System**"), subject to the following conditions: (i) Tenant's plans and specifications for the proposed Tenant's Security System shall be subject to Landlord's prior written approval, which approval will not be unreasonably withheld; provided, however, that Tenant shall coordinate the installation and operation of Tenant's Security System with Landlord to assure that Tenant's Security System may be compatible with the Building's master systems and equipment; (ii) Landlord shall be provided with keys, codes and/or access cards, as applicable, and means of immediate access to fully exercise all of its entry rights under this Lease with respect to the Premises; and (iii) Tenant shall keep Tenant's Security System in good operating condition and repair and Tenant shall be solely responsible, at Tenant's sole cost and expense, for the monitoring, operation and removal of Tenant's Security System. Notwithstanding anything to the contrary, neither Landlord nor any Landlord Indemnified Parties shall be directly or indirectly liable to Tenant, any Tenant Parties or any other person and Tenant hereby waives any and all claims against and releases Landlord and the Landlord Indemnified Parties from any and all claims arising as a consequence of or related to Tenant's Security System, or the failure thereof.

34. **Force Majeure**. Except for the payment of Rent, neither Landlord nor Tenant shall be held responsible or liable for delays in the performance of its obligations hereunder when caused by, related to, or arising out of acts of God, sinkholes or subsidence, strikes, lockouts, or other labor disputes, embargoes, quarantines, weather, national, regional, or local disasters, calamities, or catastrophes, inability to obtain labor or materials (or reasonable substitutes therefor) at reasonable costs or failure of, or inability to obtain, utilities necessary for performance, governmental restrictions, orders, limitations, regulations, or controls, national emergencies, local, regional or national epidemic or pandemic, delay in issuance or revocation of permits, enemy or hostile governmental action, terrorism, insurrection, riots, civil disturbance or commotion, fire or other casualty, and other causes or events beyond their reasonable control ("**Force Majeure**").

35. **Brokers**. Landlord and Tenant each represents and warrants that it has not dealt with any broker, agent or other person (collectively, "**Broker**") in connection with this transaction and that no Broker

brought about this transaction, other than Cushman & Wakefield and Newmark Knight Frank. Landlord and Tenant each hereby agree to indemnify and hold the other harmless from and against any claims by any Broker, other than Cushman & Wakefield and Newmark Knight Frank, claiming a commission or other form of compensation by virtue of having dealt with Tenant or Landlord, as applicable, with regard to this leasing transaction. Landlord shall be responsible for all commissions due to Cushman & Wakefield and Newmark Knight Frank arising out of the execution of this Lease in accordance with the terms of a separate written agreement between each of Cushman & Wakefield and Newmark Knight Frank and Landlord.

36. **Limitation on Landlord's Liability**. NOTWITHSTANDING ANYTHING SET FORTH HEREIN OR IN ANY OTHER AGREEMENT BETWEEN LANDLORD AND TENANT TO THE CONTRARY: (A) LANDLORD SHALL NOT BE LIABLE TO TENANT OR ANY OTHER PERSON FOR (AND TENANT AND EACH SUCH OTHER PERSON ASSUME ALL RISK OF) LOSS, DAMAGE OR INJURY, WHETHER ACTUAL OR CONSEQUENTIAL TO: TENANT'S PERSONAL PROPERTY OF EVERY KIND AND DESCRIPTION, INCLUDING, WITHOUT LIMITATION TRADE FIXTURES, EQUIPMENT, INVENTORY, SCIENTIFIC RESEARCH, SCIENTIFIC EXPERIMENTS, LABORATORY ANIMALS, PRODUCT, SPECIMENS, SAMPLES, AND/OR SCIENTIFIC, BUSINESS, ACCOUNTING AND OTHER RECORDS OF EVERY KIND AND DESCRIPTION KEPT AT THE PREMISES AND ANY AND ALL INCOME DERIVED OR DERIVABLE THEREFROM; (B) THERE SHALL BE NO PERSONAL RECOURSE TO LANDLORD FOR ANY ACT OR OCCURRENCE IN, ON OR ABOUT THE PREMISES OR ARISING IN ANY WAY UNDER THIS LEASE OR ANY OTHER AGREEMENT BETWEEN LANDLORD AND TENANT WITH RESPECT TO THE SUBJECT MATTER HEREOF AND ANY LIABILITY OF LANDLORD HEREUNDER SHALL BE STRICTLY LIMITED SOLELY TO LANDLORD'S INTEREST IN THE PROJECT OR ANY PROCEEDS FROM SALE OR CONDEMNATION THEREOF AND ANY INSURANCE PROCEEDS PAYABLE IN RESPECT OF LANDLORD'S INTEREST IN THE PROJECT OR IN CONNECTION WITH ANY SUCH LOSS; AND (C) IN NO EVENT SHALL ANY PERSONAL LIABILITY BE ASSERTED AGAINST LANDLORD IN CONNECTION WITH THIS LEASE NOR SHALL ANY RECOURSE BE HAD TO ANY OTHER PROPERTY OR ASSETS OF LANDLORD OR ANY OF LANDLORD'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR CONTRACTORS. UNDER NO CIRCUMSTANCES SHALL LANDLORD OR ANY OF LANDLORD'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR CONTRACTORS BE LIABLE FOR INJURY TO TENANT'S BUSINESS OR FOR ANY LOSS OF INCOME OR PROFIT THEREFROM.

Tenant acknowledges and agrees that measures and/or services implemented at the Project, if any, intended to encourage social distancing, promote and protect health and physical well-being and/or intended to limit the spread of Infectious Conditions, may not prevent the spread of such Infectious Conditions. Neither Landlord nor any Landlord Indemnified Parties shall have any liability and Tenant waives any claims against Landlord and the Landlord Indemnified Parties with respect to any loss, damage or injury in connection with (x) the implementation, or failure of Landlord or any Landlord Indemnified Parties to implement, any measures and/or services at the Project intended to encourage social distancing, promote and protect health and physical well-being and/or intended to limit the spread of Infectious Conditions, or (y) the failure of any measures and/or services implemented at the Project, if any, to limit the spread of any Infectious Conditions.

37. **Severability**. If any clause or provision of this Lease is illegal, invalid or unenforceable under present or future laws, then and in that event, it is the intention of the parties hereto that the remainder of this Lease shall not be affected thereby. It is also the intention of the parties to this Lease that in lieu of each clause or provision of this Lease that is illegal, invalid or unenforceable, there be added, as a part of this Lease, a clause or provision as similar in effect to such illegal, invalid or unenforceable clause or provision as shall be legal, valid and enforceable.

38. **Signs; Exterior Appearance**. Tenant shall not, without the prior written consent of Landlord, which may be granted or withheld in Landlord's reasonable discretion: (i) attach any awnings, exterior lights, decorations, balloons, flags, pennants, banners, painting or other projection to any outside wall of the Project, (ii) use any curtains, blinds, shades or screens other than Landlord's standard window coverings, (iii) coat or otherwise sunscreen the interior or exterior of any windows, (iv) place any bottles, parcels, or other articles on the window sills, (v) place any equipment, furniture or other items of personal

property on any exterior balcony, or (vi) paint, affix or exhibit on any part of the Premises or the Project any signs, notices, window or door lettering, placards, decorations, or advertising media of any type which can be viewed from the exterior of the Premises. Suite entry signage shall be inscribed, painted or affixed for Tenant by Landlord and shall be of a size, color and type reasonably acceptable to Landlord. The cost of such suite entry signage shall be payable out of the TI Fund. Landlord shall include Tenant's name and suite numbers on the main Building lobby directory. Nothing may be placed on the exterior of corridor walls or corridor doors other than Landlord's standard lettering, without Landlord's prior written consent, which consent shall not be unreasonably withheld, conditioned or delayed. The Building lobby directory shall be provided exclusively for the display of the name and location of tenants.

Tenant shall also have the non-exclusive right to display a sign bearing Tenant's name and/or logo on the monument sign serving the Building in a location designated by Landlord (the "**Monument Sign**"). Tenant shall be entitled to its pro-rata share of available space on the Monument Sign, and so long as the Premises consists of the largest area within the Building leased by a single tenant, Tenant shall have the right to have its name and/or logo on the top of such Monument Sign (or such other location on such Monument Sign as Tenant wishes). Notwithstanding the foregoing, Tenant acknowledges and agrees that Tenant's signage on the Monument Sign including, without limitation, the size, color and type, shall be subject to Landlord's prior written approval, which approval shall not be unreasonably withheld, conditioned or delayed, and shall be consistent with Landlord's signage program at the Project and applicable Legal Requirements. Tenant shall be responsible, at Tenant's sole cost and expense, for the fabrication, installation and maintenance of Tenant's signage on the Monument Sign, replacements during the Term (if required) of Tenant's signage on the Monument Sign, the removal of the Tenant's signage from Monument Sign at the expiration or earlier termination of the Term and for the repair of all damage resulting from such removal; provided, however, that a portion of the TI Allowance may be allocated toward the cost of the fabrication and installation of Tenant's initial signage on the Monument Sign.

Tenant shall also have the non-exclusive right to display a sign bearing Tenant's name and/or logo using Tenant's standard colors and lettering on the exterior of the Building outside the Premises in the location specified on **Exhibit G** (the "**Tenant's Exterior Sign**"), provided, however, if any time during the Term the Premises consists of the entire rentable area of the Building, such right to a sign on the exterior of the Building shall be exclusive to Tenant. Notwithstanding the foregoing, Tenant acknowledges and agrees that Tenant's Exterior Sign including, without limitation, the size, color and type, shall be subject to Landlord's prior written approval, which approval shall not be unreasonably withheld, conditioned or delayed, and shall be consistent with Landlord's signage program at the Project and applicable Legal Requirements. Tenant shall be responsible, at Tenant's sole cost and expense, for the fabrication, installation and maintenance of Tenant's Exterior Sign, replacements during the Term (if required) of Tenant's Exterior Sign, the removal of the Tenant's Exterior Sign at the expiration or earlier termination of the Term and for the repair of all damage resulting from such removal; provided, however, that a portion of the TI Allowance may be allocated toward the cost of the fabrication and installation of the initial Tenant's Exterior Sign.

39. **Premises Expansion**. To the extent that all or any portion of the Building not initially included as part of the Premises (each such space, "**Must-Take Premises**") becomes available on or before the expiration of the 24th calendar month after the Commencement Date, for Landlord's commencement of construction of the Must-Take Premises Improvements (as defined below) (the "**Must-Take Outside Date**"), Landlord shall provide Tenant with written notice thereof, which notice shall include the target Must-Take Premises Commencement Date with respect to the Must-Take Premises identified in such notice (each, a "**Target Must-Take Premises Commencement Date**"), and, thereafter, (a) the then-existing Premises shall be expanded to include the available Must-Take Premises on the earlier of (i) the date that Landlord delivers such Must-Take Premises with the Must-Take Premises Improvements substantially completed, or (ii) the date that Landlord could have delivered such Must-Take Premises with Must-Take Premises Improvements substantially completed but for delays caused by Tenant (each, a "**Must-Take Premises Commencement Date**"), provided, however, in no event shall the Must-Take Premises Commencement Date occur prior to the Commencement Date, without Tenant's prior written approval, which approval may be granted or withheld in its sole and absolute discretion, (b) commencing on the Must-Take Premises Commencement Date with respect to the applicable Must-Take Premises,

Tenant shall commence paying Base Rent with respect to such Must-Take Premises at the same per rentable square foot rate of Base Rent payable with respect to the original Premises, subject to adjustment pursuant to Section 4(a), (c) commencing on the Must-Take Premises Commencement Date, Tenant shall commence paying Tenant's Share of Operating Expenses with respect to the applicable Must-Take Premises, (d) commencing on the applicable Must-Take Premises Commencement Date, Tenant shall pay the cost of Utilities provided to the applicable Must-Take Premises, (e) the Base Term of the Lease with respect to the each Must-Take Premises shall be coterminous with the Base Term of the Lease for the original Premises, (f) Landlord and Tenant shall work in good faith to develop and agree upon plans and specifications and a schedule for construction and completion of the Must-Take Premises Improvements, and, thereafter pursuant to the terms of a work letter in substantially the same form as the Work Letter (not including the construction schedule, the Landlord/Tenant Matrix or the Additional Tenant Improvement Allowance) ("**Must-Take Premises Work Letter**"), Landlord shall construct fixed and permanent improvements in the applicable Must-Take Premises ("**Must-Take Premises Improvements**"), provided, however, in the event the construction of the Must-Take Premises Improvements is scheduled to occur after the Commencement Date, Tenant may elect to perform the Must-Take Premises Improvements, and (g) Landlord shall provide an allowance of $250.00 per rentable square foot of the applicable Must-Take Premises for the design and construction of the Must-Take Premises Improvements and Tenant shall be responsible for any costs of the Must-Take Improvements in excess of such allowance. This Lease shall be amended to reflect the addition of each applicable Must-Take Premises, if any, to the definitions of "**Premises**" and "**Rentable Area of Premises**" and to appropriately adjust the amount set forth in the definition of "**Tenant's Share of Operating Expenses**," and to include a Must-Take Premises Work Letter for the applicable Must-Take Premises. Following the Must-Take Outside Date, any remaining portion of the Building which has not been delivered to Tenant pursuant to this Section 39 shall be subject to the Right of First Offer set forth in Section 40 below. Notwithstanding the foregoing, in the event Landlord notifies Tenant in writing that a portion of the Must-Take Premises will be available prior to the Must-Take Outside Date, Tenant has not elected to perform the Must-Take Improvements, and the Must-Take Premises Commencement Date with respect to the identified Must-Take Premises has not occurred within 90 days of the applicable Target Must-Take Premises Commencement Date Base Rent (each, a "**Must-Take Abatement Date**"), then Base Rent payable with respect to identified Must-Take Premises only shall be abated 1 day for each day after the applicable Must-Take Abatement Date that Landlord fails to deliver the identified Must-Take Premises to Tenant. If Tenant has not elected to perform the Must-Take Improvements and the Must-Take Premises Commencement Date has not occurred within 180 days of the Must-Take Outside Date for any reason other than Force Majeure and Tenant Delays, this Lease with respect to the identified Must-Take Premises only may be terminated by Tenant by written notice to Landlord, and if so terminated neither Landlord nor Tenant shall have any further rights, duties or obligations under this Lease, except with respect to provisions which expressly survive termination of this Lease; provided, however that Tenant shall continue to have the expansion rights granted pursuant to Section 40 below (Right of First Offer) with respect to such identified Must-Take Space.

40. **Right of First Offer**.

(a) **Expansion in the Building**. Tenant shall have an on-going right during the Base Term, but not the obligation, subject to the terms of this Section 40(a), to expand the Premises (the "**Right of First Offer**") to include the ROFO Space upon the terms and conditions in this Section 40. For purposes of this Section 40(a), "**ROFO Space**" shall mean any remaining portion of the Building which was not previously delivered to Tenant as Must-Take Premises pursuant to Section 39, which is not occupied by a tenant or which is occupied by a then-existing tenant whose lease is expiring within 9 months or less and such tenant does not wish to renew (whether or not such tenant has a right to renew) its occupancy of such space. Each time that all or a portion of the ROFO Space will become available, Landlord shall, at such time as Landlord shall elect so long as Tenant's rights hereunder are preserved, deliver to Tenant written notice (the "**ROFO Notice**") of the availability of such ROFO Space, together with the terms and conditions on which Landlord is prepared to lease Tenant such ROFO Space; provided that Base Rent for the ROFO Space shall be at the Market Rate (as defined in Section 41(a) below). Tenant shall be required to exercise its right under this Section 40(a) with respect to all of the ROFO Space described in the ROFO Notice (the "**Identified ROFO Space**"). If, as of the proposed commencement date of this Lease with respect to the Identified ROFO Space (the "**ROFO Space Commencement Date**"), not less than 24 months remain on the Base

Term with respect to the then-existing Premises (the "**ROFO Space Minimum Term**"), then the base term of this Lease with respect to the Identified ROFO Space shall be co-terminous with the Base Term of this Lease with respect to the then-existing Premises. To the extent that the remaining Base Term of the Lease as of the ROFO Space Commencement Date would be less than the ROFO Space Minimum Term, then Tenant shall be required to exercise its first Extension Right (as defined in Section 41(a)) concurrent with Tenant's delivery to Landlord of its Exercise Notice. Tenant shall have 10 days following receipt of the ROFO Notice to deliver to Landlord written notification of Tenant's exercise of its Right of First Offer with respect to the Identified ROFO Space ("**Exercise Notice**"). If Landlord and Tenant are unable to agree on the Market Rate for the Identified ROFO Space after negotiating in good faith within 10 days after Tenant's delivery of an Exercise Notice, the Market Rate will be determined through arbitration in accordance with Section 41(b) below. If Tenant does not deliver an Exercise Notice to Landlord within such 10-day period, then Tenant shall be deemed to have waived its rights under this Section 40(a) to lease the Identified ROFO Space, and Landlord shall have the right to lease the Identified ROFO Space to any third party on any terms and conditions acceptable to Landlord; provided, that if Landlord fails to enter into a lease for the Identified ROFO Space within 12 months after the date of the ROFO Notice and such Identified ROFO Space is still available to lease, then Tenant's Right of First Offer with respect to the Identified ROFO Space shall be restored and Landlord shall deliver to Tenant a new ROFO Notice with respect to such Identified ROFO Space. Furthermore, for avoidance of doubt, Tenant's Right of First Offer is an on-going right during the Base Term and whenever ROFO Space next becomes available, Landlord shall offer, subject to the terms of this Section 40(a), such space to Tenant as set forth above.

(b) **Amended Lease**. If: (i) Tenant fails to timely deliver an Exercise Notice, or (ii) after the expiration of a period of 15 days after Landlord's delivery to Tenant of a lease amendment for Tenant's lease of the Identified ROFO Space, no lease amendment for the Identified ROFO Space acceptable to both parties each in their reasonable discretion after using diligent good faith efforts negotiate the same, has been executed, Tenant shall, notwithstanding anything to the contrary contained herein, be deemed to have rescinded its Exercise Notice, and Landlord shall have the right to lease the Identified ROFO Space to any third party on any terms and conditions acceptable to Landlord, subject to the penultimate sentence of Section 40(a) above.

(c) **Exceptions**. Notwithstanding the above, the Right of First Offer shall, at Landlord's option, not be in effect and may not be exercised by Tenant:

(i) during any period of time that Tenant is in Default under any provision of this Lease;

(ii) during any period of time that Tenant or any entity which is controlled by, is under common control with, or which controls Tenant (an "**Affiliate**") is not occupying at least 75% of the Premises; or

(iii) if Tenant has been in Default under any provision of this Lease 3 or more times, whether or not the Defaults are cured, during the 12 month period prior to the date on which Tenant seeks to exercise the Right of First Offer.

(d) **Termination**. The Right of First Offer shall, at Landlord's option, terminate and be of no further force or effect even after Tenant's due and timely exercise of the Right of First Offer, if, after such exercise, but prior to the commencement date of the lease of such Identified ROFO Space, (i) Tenant fails to timely cure any default by Tenant under this Lease; or (ii) Tenant has Defaulted 3 or more times during the period from the date of the exercise of the Right of First Offer to the date of the commencement of the lease of the Identified ROFO Space, whether or not such Defaults are cured.

(e) **Rights Personal**. The Right of First Offer is personal to Tenant and is not assignable without Landlord's consent, which may be granted or withheld in Landlord's sole discretion separate and apart from any consent by Landlord to an assignment of Tenant's interest in this Lease, except that they may be assigned in connection with any Permitted Assignment of this Lease.

(f) **No Extensions**. The period of time within which the Right of First Offer may be exercised shall not be extended or enlarged by reason of Tenant's inability to exercise the Expansion Rights.

41. **Right to Extend Term**. Tenant shall have the right to extend the Term of this Lease upon the following terms and conditions:

(a) **Extension Rights**. Tenant shall have 2 consecutive rights (each, an "**Extension Right**") to extend the term of this Lease for 60 months each (each, an "**Extension Term**") on the same terms and conditions as this Lease (other than with respect to Base Rent and the Work Letter) by giving Landlord written notice of its election to exercise each Extension Right at least 12 months prior, and no earlier than 15 months prior, to the expiration of the Base Term of this Lease or the expiration of any prior Extension Term.

Upon the commencement of either Extension Term, Base Rent shall be payable at the Market Rate (as defined below). Base Rent shall thereafter be adjusted on each annual anniversary of the commencement of such Extension Term by a percentage as determined by Landlord and agreed to by Tenant at the time the Market Rate is determined. As used herein, "**Market Rate**" shall mean the rate that comparable landlords of comparable buildings have accepted in current transactions from non-equity (i.e., not being offered equity in the buildings) and nonaffiliated tenants of similar financial strength for space of comparable size, quality (including all Tenant Improvements, Alterations and other improvements) and floor height in Class A laboratory/office buildings in the Waltham and Lexington markets for a comparable term, with the determination of the Market Rate to take into account all relevant factors, including tenant inducements, views, available amenities (including, without limitation, the Project Amenities and the Reservoir Woods Amenities (as defined in Section 42 below)), age of the Building, age of mechanical systems serving the Premises, parking costs, leasing commissions, allowances or concessions, if any. Notwithstanding the foregoing, the Market Rate shall in no event be less than the Base Rent payable as of the date immediately preceding the commencement of such Extension Term.

If, by the date which is 270 days prior to the expiration of the Base Term of this Lease, Tenant has not agreed with Landlord's determination of the Market Rate and the rent escalations during the Extension Term after negotiating in good faith, Tenant shall be deemed to have elected arbitration as described in Section 41(b). Tenant acknowledges and agrees that, if Tenant has elected to exercise the Extension Right by delivering notice to Landlord as required in this Section 41(a), Tenant shall have no right thereafter to rescind or elect not to extend the term of this Lease for the Extension Term.

(b) **Arbitration**.

(i) Within 10 days of Tenant's notice to Landlord of its election (or deemed election) to arbitrate Market Rate and escalations, each party shall deliver to the other a proposal containing the Market Rate and escalations that the submitting party believes to be correct ("**Extension Proposal**"). If either party fails to timely submit an Extension Proposal, the other party's submitted proposal shall determine the Base Rent and escalations for the Extension Term. If both parties submit Extension Proposals, then Landlord and Tenant shall meet within 7 days after delivery of the last Extension Proposal and make a good faith attempt to mutually appoint a single Arbitrator (and defined below) to determine the Market Rate and escalations. If Landlord and Tenant are unable to agree upon a single Arbitrator, then each shall, by written notice delivered to the other within 10 days after the meeting, select an Arbitrator. If either party fails to timely give notice of its selection for an Arbitrator, the other party's submitted proposal shall determine the Base Rent for the Extension Term. The 2 Arbitrators so appointed shall, within 5 business days after their appointment, appoint a third Arbitrator. If the 2 Arbitrators so selected cannot agree on the selection of the third Arbitrator within the time above specified, then either party, on behalf of both parties, may request such appointment of such third Arbitrator by application to any state court of general jurisdiction in the jurisdiction in which the Premises are located, upon 10 days prior written notice to the other party of such intent.

(ii) The decision of the Arbitrator(s) shall be made within 30 days after the appointment of a single Arbitrator or the third Arbitrator, as applicable. The decision of the single Arbitrator shall be final and binding upon the parties. The average of the two closest Arbitrators in a three Arbitrator panel shall be final and binding upon the parties. Each party shall pay the fees and expenses of the Arbitrator appointed by or on behalf of such party and the fees and expenses of the third Arbitrator shall be borne equally by both parties. If the Market Rate and escalations are not determined by the first day of the Extension Term, then Tenant shall pay Landlord Base Rent in an amount equal to the Base Rent in effect immediately prior to the Extension Term and increased by the Rent Adjustment Percentage until such determination is made. After the determination of the Market Rate and escalations, the parties shall make any necessary adjustments to such payments made by Tenant. Landlord and Tenant shall then execute an amendment recognizing the Market Rate and escalations for the Extension Term.

(iii) An "**Arbitrator**" shall be any person appointed by or on behalf of either party or appointed pursuant to the provisions hereof and: (i) shall be (A) a member of the American Institute of Real Estate Appraisers with not less than 10 years of experience in the appraisal of improved office and high tech industrial real estate in the greater Boston metropolitan area, or (B) a licensed commercial real estate broker with not less than 15 years' experience representing landlords and/or tenants in the leasing of high tech or life sciences space in the greater Boston metropolitan area, (ii) devoting substantially all of their time to professional appraisal or brokerage work, as applicable, at the time of appointment and (iii) be in all respects impartial and disinterested.

(c) **Rights Personal**. Extension Rights are personal to Tenant and are not assignable without Landlord's consent, which may be granted or withheld in Landlord's sole discretion separate and apart from any consent by Landlord to an assignment of Tenant's interest in this Lease, except that they may be assigned in connection with any Permitted Assignment of this Lease.

(d) **Exceptions**. Notwithstanding anything set forth above to the contrary, Extension Rights shall, at Landlord's option, not be in effect and Tenant may not exercise any of the Extension Rights:

(i) during any period of time that Tenant is in Default under any provision of this Lease; or

(ii) during any period of time that Tenant or an Affiliate is not occupying at least 75% of the Premises; or

(iii) if Tenant has been in Default under any provision of this Lease 3 or more times, whether or not the Defaults are cured, during the 12 month period immediately prior to the date that Tenant intends to exercise an Extension Right, whether or not the Defaults are cured.

(e) **No Extensions**. The period of time within which any Extension Rights may be exercised shall not be extended or enlarged by reason of Tenant's inability to exercise the Extension Rights.

(f) **Termination**. The Extension Rights shall, at Landlord's option, terminate and be of no further force or effect even after Tenant's due and timely exercise of an Extension Right, if, after such exercise, but prior to the commencement date of an Extension Term, (i) Tenant fails to timely cure any default by Tenant under this Lease; or (ii) Tenant has Defaulted 3 or more times during the period from the date of the exercise of an Extension Right to the date of the commencement of the Extension Term, whether or not such Defaults are cured.

42. **Reservoir Woods Amenities**.

(a) **Generally**. Subject to the provisions of this Section 42, ARE-MA Region No. 82, LLC, a Delaware limited liability company ("**Reservoir Woods Landlord**"), an affiliate of Landlord, may construct certain common amenities at the property owned by Reservoir Woods Landlord commonly located at 40 and 50-60 Sylvan Road, Waltham, Massachusetts (the "**Reservoir Woods Project**"), which may including

shared conferencing facilities ("**Shared Conference Facilities**"), a fitness center and/or a restaurant (collectively, the "**Reservoir Woods Amenities**") for non-exclusive use by tenants of (i) the Reservoir Woods Project, (ii) tenants of the Project, (iii) other affiliates of Landlord, Reservoir Woods Landlord and Alexandria Real Estate Equities, Inc. ("**ARE**"), and (iv) any other parties permitted by Reservoir Woods Landlord (collectively, "**Users**"). Landlord, Reservoir Woods Landlord, ARE, and all affiliates of Landlord, Reservoir Woods Landlord and ARE may be referred to collectively herein as the "**ARE Parties**." Notwithstanding anything to the contrary contained herein, Tenant acknowledges and agrees that Reservoir Woods Landlord shall have the right, at the sole discretion of Reservoir Woods Landlord, to construct any Reservoir Woods Amenities desired by Reservoir Woods Landlord at the Reservoir Woods Project but not make all or a portion of such Reservoir Woods Amenities available for use by some or all currently contemplated Users. Reservoir Woods Landlord shall have the sole right to determine all matters related to the Reservoir Woods Amenities including, without limitation, relating to the type, design and construction thereof. Tenant acknowledges and agrees that Landlord has not made any representations or warranties regarding the development of any of the Reservoir Woods Amenities and that Tenant is not entering into this Lease relying on the construction and completion of the Reservoir Woods Amenities or with an expectation that the Reservoir Woods Amenities will ever be constructed and/or made available to Tenant.

(b) **License**. Commencing on the date that all or a portion of the Reservoir Woods Amenities are made available for use by Users (the "**Amenities Commencement Date**"), and so long as the Reservoir Woods Project and the Project continue to be owned by affiliates of ARE, Tenant shall have the non-exclusive right to the use of the available Reservoir Woods Amenities in common with other Users pursuant to the terms of this Section 42. To the extent that the Reservoir Woods Amenities include a fitness center, fitness center passes shall be issued to Tenant for all full-time employees of Tenant employed at the Premises. Notwithstanding the foregoing, at any time after the date which is 24 months after the Amenities Commencement Date, Tenant may elect to opt out of its use of the Reservoir Woods Amenities by providing Landlord with written notice thereof, whereupon Tenant's right to use such Reservoir Woods Amenities shall cease and Tenant shall have no further obligation to pay the Amenities Fee (defined below). Once Tenant has elected to opt out of using the Reservoir Woods Amenities, Tenant's decision shall be final and Tenant shall not be permitted to opt back into using the Reservoir Woods Amenities. Tenant acknowledges that Order No. 35374 issued by the City of Waltham on December 27, 2021, requires Landlord to prepare a TDMP affecting the Project which must include Tenant being provided with cafeteria/food services on-site. The Reservoir Woods Amenities would satisfy this requirement. If Tenant opts out of using the Reservoir Woods Amenities, Tenant will need to separately provide food services on-site to its employees.

(c) **Amenities Fee**. If Tenant delivers written notice of its desire to use the Reservoir Woods Amenities, Landlord shall, within 30 days after Landlord's receipt of such notice, deliver written notice to Tenant of the fee payable for the use of the Reservoir Woods Amenities, including any escalations during the Term (the "**Amenities Fee**"). If Tenant thereafter elects, in its sole discretion, by delivery of written notice to Landlord, to use any or all of the Reservoir Woods Amenities, then, commencing on the later of the Amenities Commencement Date or the date that such Reservoir Woods Amenities are made available for Tenant's use (the "**Amenities Fee Commencement Date**"), Tenant shall be required to pay the Amenities Fee to Landlord on the first day of each month during the Term thereafter.

(d) **Shared Conference Facilities**. Use by Tenant of the Shared Conference Facilities shall be in common with other users with scheduling procedures reasonably determined by Reservoir Woods Landlord or Reservoir Woods Landlord's then designated event operator ("**Conferencing Operator**"). Tenant's use of the Shared Conference Facilities shall be subject to the payment by Tenant of a fee, which shall be payable as directed by Reservoir Woods Landlord to either Reservoir Woods Landlord or Conferencing Operator, equal to the quoted rates for the usage of the Shared Conference Facilities in effect at the time of Tenant's scheduling.

(e) **Rules and Regulations**. Tenant shall be solely responsible for paying the cost of any and all ancillary services (e.g., audio visual equipment) provided to Tenant, and the cost of any and all goods and services provided to Tenant by any food services operators and/or any third party vendors at the Reservoir Woods Project. Tenant shall use the Reservoir Woods Amenities (including, without limitation, the Shared Conference Facilities) in compliance with all applicable Legal Requirements and any rules and regulations

imposed by Reservoir Woods Landlord or Landlord from time to time and in a manner that will not interfere with the rights of other Users, which rules and regulations shall be enacted and enforced in a non-discriminatory manner and may include, (i) the required use by Users of one or more food and beverage operators designated by Reservoir Woods Landlord, (ii) usage of and compliance with reservations systems governing the use of Shared Conference Facilities and other facilities, (iii) the payment of additional costs in connection with the after-hours usage of shared conference rooms and other facilities, and (iv) access card entry requirements. The use of the Reservoir Woods Amenities other than the Shared Conference Facilities by employees of Tenant shall be in accordance with the terms and conditions of the standard licenses, indemnification and waiver agreements required by Reservoir Woods Landlord or the operator of the Reservoir Woods Amenities to be executed by all persons wishing to use such Reservoir Woods Amenities. Neither the Reservoir Woods Landlord nor Landlord (nor, if applicable, any other affiliate of Landlord) shall have any liability or obligation for the breach of any rules or regulations by other Users with respect to the Reservoir Woods Amenities. Tenant shall not make any alterations, additions, or improvements of any kind to the Shared Conference Facilities, the Reservoir Woods Amenities or the Reservoir Woods Project.

Tenant acknowledges and agrees that the Reservoir Woods Landlord shall have the right at any time and from time to time to reconfigure, relocate, modify or remove any of the Reservoir Woods Amenities at the Reservoir Woods Project and/or to revise, expand or discontinue any of the services (if any) provided in connection with the Reservoir Woods Amenities.

(f) **Waiver of Liability and Indemnification**. Tenant warrants that it will use reasonable care to prevent damage to property and injury to persons while on the Reservoir Woods Project. Tenant waives any claims it or any Tenant Parties may have against any ARE Parties relating to, arising out of or in connection with the Reservoir Woods Amenities and any entry by Tenant and/or any Tenant Parties onto the Reservoir Woods Project, and Tenant releases and exculpates all ARE Parties from any liability relating to, arising out of or in connection with the Reservoir Woods Amenities and any entry by Tenant and/or any Tenant Parties onto the Reservoir Woods Project. Tenant hereby agrees to indemnify, defend, and hold harmless the ARE Parties from any claim of damage to property or injury to persons relating to, arising out of or in connection with (i) the use of the Reservoir Woods Amenities by Tenant or any Tenant Parties, and (ii) any entry by Tenant and/or any Tenant Parties onto the Reservoir Woods Project, except to the extent caused by the negligence or willful misconduct of ARE Parties. The provisions of this Section 42(f) shall survive the expiration or earlier termination of this Lease.

43. **Roof Equipment**. As long as Tenant is not in Default under this Lease, Tenant shall have the right at its sole cost and expense, subject to compliance with all Legal Requirements, to install, maintain, and remove on the top of the roof of the Building (based on Tenant's proportionate share of the space available on the roof) in a location designated by Landlord, one or more satellite dishes, communication antennae, or other equipment (all of which having a diameter and height acceptable to Landlord) for the transmission or reception of communication of signals as Tenant may from time to time desire (collectively, the "**Roof Equipment**") on the following terms and conditions:

(a) **Requirements**. Tenant shall submit to Landlord (i) the plans and specifications for the installation of the Roof Equipment, (ii) copies of all required governmental and quasi-governmental permits, licenses, and authorizations that Tenant will and must obtain at its own expense, with the cooperation of Landlord, if necessary for the installation and operation of the Roof Equipment, and (iii) an insurance policy or certificate of insurance evidencing insurance coverage as required by this Lease and any other insurance as reasonably required by Landlord for the installation and operation of the Roof Equipment. Landlord shall not unreasonably withhold or delay its approval for the installation and operation of the Roof Equipment; provided, however, that Landlord may reasonably withhold its approval if the installation or operation of the Roof Equipment (A) may damage the structural integrity of the Building, (B) may void, terminate, or invalidate any applicable roof warranty, (C) may interfere with any service provided by Landlord or any tenant of the Building, (D) may reduce the leasable space in the Building, or (E) is not properly screened from the viewing public.

(b) **No Damage to Roof**. If installation of the Roof Equipment requires Tenant to make any roof cuts or perform any other roofing work, such cuts shall only be made to the roof area of the Building in locations acceptable to Landlord and in the manner designated in writing by Landlord; and any such installation work (including any roof cuts or other roofing work) shall be performed by Tenant, at Tenant's sole cost and expense by a roofing contractor designated by Landlord. If Tenant or its agents shall otherwise cause any damage to the roof during the installation, operation, and removal of the Roof Equipment such damage shall be repaired promptly at Tenant's expense and the roof shall be restored in the same condition it was in before the damage. Landlord shall not charge Tenant Additional Rent for the installation and use of the Roof Equipment. If, however, Landlord's insurance premium or Tax assessment increases as a result of the Roof Equipment, Tenant shall pay such increase as Additional Rent within ten (10) days after receipt of a reasonably detailed invoice from Landlord. Tenant shall not be entitled to any abatement or reduction in the amount of Rent payable under this Lease if for any reason Tenant is unable to use the Roof Equipment. In no event whatsoever shall the installation, operation, maintenance, or removal of the Roof Equipment by Tenant or its agents void, terminate, or invalidate any applicable roof warranty.

(c) **Protection**. The installation, operation, and removal of the Roof Equipment shall be at Tenant's sole risk. Tenant shall indemnify, defend, and hold Landlord harmless from and against any and all claims, costs, damages, liabilities and expenses (including, but not limited to, attorneys' fees) of every kind and description that may arise out of or be connected in any way with Tenant's installation, operation, or removal of the Roof Equipment.

(d) **Removal**. At the expiration or earlier termination of this Lease or the discontinuance of the use of the Roof Equipment by Tenant, Tenant shall, at its sole cost and expense, remove the Roof Equipment from the Building. Tenant shall leave the portion of the roof where the Roof Equipment was located in good order and repair, reasonable wear and tear excepted. If Tenant does not so remove the Roof Equipment, Tenant hereby authorizes Landlord to remove and dispose of the Roof Equipment and charge Tenant as Additional Rent for all costs and expenses incurred by Landlord in such removal and disposal. Tenant agrees that Landlord shall not be liable for any Roof Equipment or related property disposed of or removed by Landlord.

(e) **No Interference**. The Roof Equipment shall not interfere with the proper functioning of any telecommunications equipment or devices that have been installed or will be installed by Landlord or for any other tenant or future tenant of the Building. Tenant acknowledges that other tenant(s) may have approval rights over the installation and operation of telecommunications equipment and devices on or about the roof, and that Tenant's right to install and operate the Roof Equipment is subject and subordinate to the rights of such other tenants. Tenant agrees that any other tenant of the Building that currently has or in the future takes possession of any portion of the Building will be permitted to install such telecommunication equipment that is of a type and frequency that will not cause unreasonable interference to the Roof Equipment.

(f) **Relocation**. Landlord shall have the right, at its expense and after 60 days prior notice to Tenant, to relocate the Roof Equipment to another site on the roof of the Building as long as such site reasonably meets Tenant's sight line and interference requirements and does not unreasonably interfere with Tenant's use and operation of the Roof Equipment.

(g) **Access**. Landlord grants to Tenant the right of ingress and egress on a 24 hour 7 day per week basis to install, operate, and maintain the Roof Equipment. Before receiving access to the roof of the Building, Tenant shall give Landlord at least 24 hours' advance written or oral notice, except in emergency situations, in which case 2 hours' advance oral notice shall be given by Tenant. Landlord shall supply Tenant with the name, telephone, and pager numbers of the contact individual(s) responsible for providing access during emergencies.

(h) **Appearance**. If permissible by Legal Requirements, the Roof Equipment shall be painted the same color as the Building so as to render the Roof Equipment virtually invisible from ground level.

(i) **No Assignment**. The right of Tenant to use and operate the Roof Equipment shall be personal solely to Intellia Therapeutics, Inc., and, except in connection with an assignment which constitutes a Permitted Assignment or another assignment of this Lease consented to by Landlord, (i) no other person or entity shall have any right to use or operate the Roof Equipment, and (ii) Tenant shall not assign, convey, or otherwise transfer to any person or entity any right, title, or interest in all or any portion of the Roof Equipment or the use and operation thereof.

44. **Miscellaneous**.

(a) **Notices**. All notices or other communications between the parties shall be in writing and shall be deemed duly given upon delivery or refusal to accept delivery by the addressee thereof if delivered in person, or upon actual receipt if delivered by reputable overnight guaranty courier, addressed and sent to the parties at their addresses set forth above. Landlord and Tenant may from time to time by written notice to the other designate another address for receipt of future notices.

(b) **Joint and Several Liability**. If and when included within the term "**Tenant**," as used in this instrument, there is more than one person or entity, each shall be jointly and severally liable for the obligations of Tenant.

(c) **Financial Information**. Tenant shall furnish to Landlord true and complete copies of (i) upon Landlord's written request on an annual basis, Tenant's most recent audited annual financial statements, provided, however, that Tenant shall not be required to deliver to Landlord such annual financial statements for any particular year sooner than the date that is 90 days after the end of each of Tenant's fiscal years during the Term, (ii) upon Landlord's written request on a quarterly basis, Tenant's most recent unaudited quarterly financial statements; provided, however, that Tenant shall not be required to deliver to Landlord such quarterly financial statements for any particular quarter sooner that the date that is 45 days after the end of each of Tenant's fiscal quarters during the Term, (iii) upon Landlord's written request from time to time, updated business plans, including cash flow projections and/or pro forma balance sheets and income statements, all of which shall be treated by Landlord as confidential information belonging to Tenant, (iv) upon Landlord's written request from time to time, corporate brochures and/or profiles prepared by Tenant for prospective investors, and (v) upon Landlord's written request from time to time, any other financial information or summaries that Tenant typically provides to its lenders or shareholders. Notwithstanding anything to the contrary contained in this Lease, Landlord's written request for financial information pursuant to this Section 44(c) may delivered to Tenant via email. So long as Tenant is a "public company" and its financial information is publicly available, then the foregoing delivery requirements of this Section 44(c) shall not apply.

(d) **Recordation**. Neither this Lease nor a memorandum of lease shall be filed by or on behalf of Tenant in any public record. Notwithstanding the foregoing, upon Tenant's request and at Tenant's sole cost and expense, Landlord shall execute and notarize a memorandum of lease prepared by Tenant which memorandum shall contain only the following information and any other additional information that may be required by applicable law: (i) the names of the parties to this Lease, (ii) description of the Premises and the Project, (iii) the Term (including the Extension Right, and (iv) the Right of First Offer. Tenant shall file such memorandum of lease, at Tenant's sole cost. If Tenant fails, after written request from Landlord, to record a termination of the memorandum on the expiration or earlier termination of this Lease, Tenant shall be responsible for any damages suffered by Landlord (from any cause including, without limitation, resulting from any indemnities or certifications which may be made by Landlord in favor of third parties). The provisions of this Section 44(d) shall survive the expiration or earlier termination of this Lease. Landlord may prepare and file, and upon request by Landlord Tenant will execute, a memorandum of lease.

(e) **Interpretation**. The normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Lease or any exhibits or amendments hereto. Words of any gender used in this Lease shall be held and construed to include any other gender, and words in the singular number shall be held to include the plural, unless the context otherwise requires. The captions inserted in this Lease are for convenience only and in no way define, limit

or otherwise describe the scope or intent of this Lease, or any provision hereof, or in any way affect the interpretation of this Lease.

(f) **Not Binding Until Executed**. The submission by Landlord to Tenant of this Lease shall have no binding force or effect, shall not constitute an option for the leasing of the Premises, nor confer any right or impose any obligations upon either party until execution of this Lease by both parties.

(g) **Limitations on Interest**. It is expressly the intent of Landlord and Tenant at all times to comply with applicable law governing the maximum rate or amount of any interest payable on or in connection with this Lease. If applicable law is ever judicially interpreted so as to render usurious any interest called for under this Lease, or contracted for, charged, taken, reserved, or received with respect to this Lease, then it is Landlord's and Tenant's express intent that all excess amounts theretofore collected by Landlord be credited on the applicable obligation (or, if the obligation has been or would thereby be paid in full, refunded to Tenant), and the provisions of this Lease immediately shall be deemed reformed and the amounts thereafter collectible hereunder reduced, without the necessity of the execution of any new document, so as to comply with the applicable law, but so as to permit the recovery of the fullest amount otherwise called for hereunder.

(h) **Choice of Law**. Construction and interpretation of this Lease shall be governed by the internal laws of the state in which the Premises are located, excluding any principles of conflicts of laws.

(i) **Time**. Time is of the essence as to the performance of Tenant's obligations under this Lease.

(j) **OFAC**. Landlord and Tenant are currently (a) in compliance with and shall at all times during the Term of this Lease remain in compliance with the regulations of the Office of Foreign Assets Control ("**OFAC**") of the U.S. Department of Treasury and any statute, executive order, or regulation relating thereto (collectively, the "**OFAC Rules**"), (b) not listed on, and shall not during the term of this Lease be listed on, the Specially Designated Nationals and Blocked Persons List, Foreign Sanctions Evaders List, or the Sectoral Sanctions Identification List, which are all maintained by OFAC and/or on any other similar list maintained by OFAC or other governmental authority pursuant to any authorizing statute, executive order, or regulation, and (c) not a person or entity with whom a U.S. person is prohibited from conducting business under the OFAC Rules.

(k) **Incorporation by Reference**. All exhibits and addenda attached hereto are hereby incorporated into this Lease and made a part hereof. If there is any conflict between such exhibits or addenda and the terms of this Lease, such exhibits or addenda shall control.

(l) **Entire Agreement**. This Lease, including the exhibits attached hereto, constitutes the entire agreement between Landlord and Tenant pertaining to the subject matter hereof and supersedes all prior and contemporaneous agreements, understandings, letters of intent, negotiations and discussions, whether oral or written, of the parties, and there are no warranties, representations or other agreements, express or implied, made to either party by the other party in connection with the subject matter hereof except as specifically set forth herein.

(m) **No Accord and Satisfaction**. No payment by Tenant or receipt by Landlord of a lesser amount than the monthly installment of Base Rent or any Additional Rent will be other than on account of the earliest stipulated Base Rent and Additional Rent, nor will any endorsement or statement on any check or letter accompanying a check for payment of any Base Rent or Additional Rent be an accord and satisfaction. Landlord may accept such check or payment without prejudice to Landlord's right to recover the balance of such Rent or to pursue any other remedy provided in this Lease.

(n) **Hazardous Activities**. Notwithstanding any other provision of this Lease, Landlord, for itself and its employees, agents and contractors, reserves the right to refuse to perform any repairs or services in any portion of the Premises which, pursuant to Tenant's routine safety guidelines, practices or custom or prudent industry practices, require any form of protective clothing or equipment other than safety glasses.

In any such case, Tenant shall contract with parties who are acceptable to Landlord, in Landlord's reasonable discretion, for all such repairs and services, and Landlord shall, to the extent required, equitably adjust Tenant's Share of Operating Expenses in respect of such repairs or services to reflect that Landlord is not providing such repairs or services to Tenant.

(o) **Shuttle Services**. Landlord and affiliates of Landlord plan to provide a campus shuttle service for the Project and other buildings in the vicinity of the Project that are owned by affiliates of Landlord (the "**Shuttle Service**"); provided, however, that neither Landlord nor any affiliate of Landlord shall be obligated to provide the Shuttle Service (or, once the Shuttle Service has commenced, to continue providing the Shuttle Service for any specific period of time) or to cause the Shuttle Service to follow any specific route, make any specific stops, or adhere to any specific schedule or hours of operation. If Landlord and affiliates of Landlord actually commence operation of the Shuttle Service, (i) Landlord shall give Tenant written notice of the date such operation will commence ("**Shuttle Services Commencement Date**") and the planned route, stops, schedule, and hours of operation, (ii) Landlord shall permit Tenant's employees actually employed at the Project to use the Shuttle Service, and (iii) regardless of whether Tenant's employees use the Shuttle Services, commencing on later to occur of (x) the Shuttle Services Commencement Date, or the Commencement Date, through the earlier of the expiration of the Term or the date that Landlord permanently ceases to provide Shuttle Service, Operating Expenses shall include the cost of provision the Shuttle Service (the "**Shuttle Service Costs**"). Tenant acknowledges and agrees that Landlord has not made any representations or warranties regarding the commencement or continued availability of the Shuttle Service and that Tenant is not entering into this Lease with an expectation that the Shuttle Service shall commence or continue to be available to Tenant throughout the Term. Notwithstanding the foregoing, at any time during which Tenant is leasing all of the rentable square footage of the Building, Tenant may elect to opt out of its use of the Shuttle Service by providing Landlord with written notice thereof, whereupon Tenant's right to use the Shuttle Service shall cease and Tenant shall have no further obligation to pay the Shuttle Service Costs. Once Tenant has elected to opt out of using the Shuttle Service, Tenant's decision shall be final and Tenant shall not be permitted to opt back into using the Shuttle Service.

(p) **Counterparts**. This Lease may be executed in 2 or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via electronic mail (including pdf or any electronic signature process complying with the U.S. federal ESIGN Act of 2000) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes. Electronic signatures shall be deemed original signatures for purposes of this Lease and all matters related thereto, with such electronic signatures having the same legal effect as original signatures.

(q) **Prevailing Party's Fees**. In the event that either party should bring suit or commence any suit or proceeding related to this Lease, then all reasonable costs and expenses, including reasonable attorneys' fees and expert fees, incurred by the prevailing party relating to such legal action shall be paid by the other party, which obligation on the part of the other party shall be deemed to have accrued on the date of the commencement of such action and shall be enforceable whether or not the action is prosecuted to judgment.

[Signatures on next page]

IN WITNESS WHEREOF, Landlord and Tenant have executed this Lease as of the day and year first above written.

TENANT:

INTELLIA THERAPEUTICS, INC.,
a Delaware corporation

By:__
Name:___
Its:__

□ I hereby certify that the signature, name, and title above are my signature, name and title

LANDLORD:

ARE-WINTER STREET PROPERTY, LLC,
a Delaware limited liability company

By: ARE-Winter Street Holdings, LLC,
a Delaware limited liability company,
managing member

By: ARE-MA Region No. 85 JV, LLC,
a Delaware limited liability company,
managing member

By: ARE-Special Services, LLC,
a Delaware limited liability company,
managing member

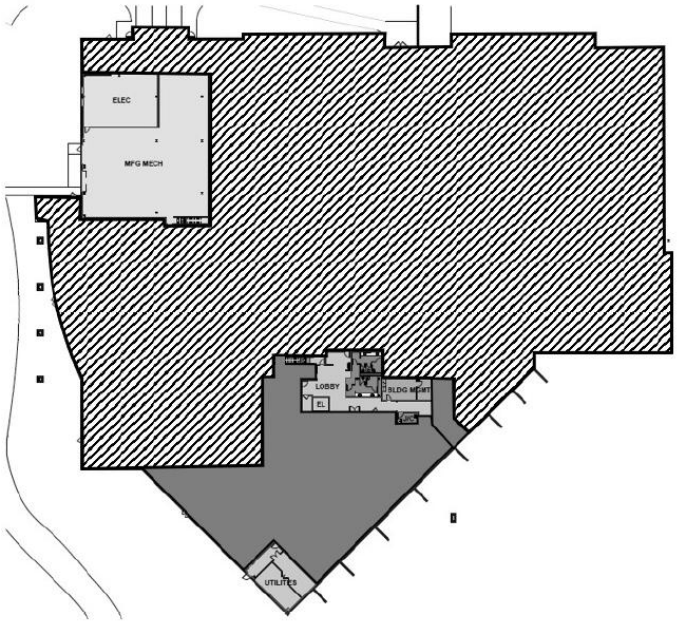
By: Alexandria Real Estate Equities, L.P.,
a Delaware limited partnership,
managing member

By: ARE-QRS Corp.,
a Maryland corporation,
general partner

By:_____
Name:_____
Its:_____

EXHIBIT A TO LEASE

DESCRIPTION OF PREMISES



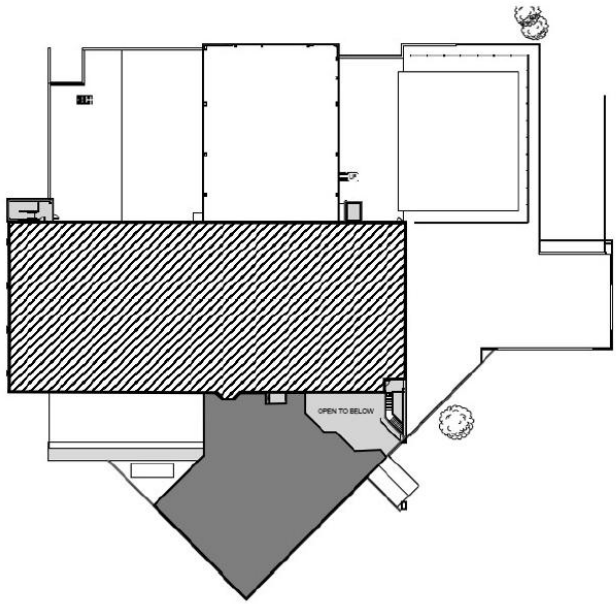
840 Winter Street
Suite 100
First Floor

Premises

840 Winter Street
Suite 201
Second Floor

Premises

DOCVARIABLE #DNDocID * MERGEFORMAT 14299047.7



840 Winter Street
Suite 301
Third Floor

Premises

EXHIBIT B TO LEASE

DESCRIPTION OF PROJECT

Parcels of registered and recorded land and with any buildings thereon situated 840 Winter Street, Waltham, Middlesex County (Southern District), Massachusetts, all more particularly described as follows:

PARCEL 1: (Registered)

Lot 5 as shown on Land Court Plan 30618-D.

PARCEL 2: (Registered)

Lot 6 as shown on Land Court Plan 30618-D.

PARCEL 3: (Recorded)

Lot A as shown on Plan entitled, "Plan of Land in Waltham, Massachusetts showing land owned by The City of Cambridge to be conveyed to Polaroid Corporation", prepared by Martinage Engineering Associates, Inc., dated July 17, 1995 and recorded with the Middlesex South District Registry of Deeds in Book 26678, Page 39, Plan No. 962 of 1996, said Lot A is further bounded and described as follows:

Beginning at the Northern most point of Lot A, on the Westerly sideline of Winter Street as shown on said plan; thence running

SOUTHERLY by the Westerly sideline of Winter Street, by a curved line to the left having a radius of two thousand forty and 00/100 feet (2040.00') a length of one hundred fifty-two and 35/100 (152.35') to a point; thence running Southerly by the Westerly sideline of Winter Street,

S 16° 54' 34" W. a distance of eighty and 40/100 feet (80.40') to a point at the remaining land of the City of Cambridge; thence running Northwesterly by the remaining land of said City of Cambridge,

N 66° 34' 05" W. a distance of thirty-seven and 82/100 feet (37.82') to a point at the land of Polaroid Corporation as shown on Land Court Plan 30618-B; thence running Northeasterly by the land of said Polaroid Corporation,

N 27° 38' 25" E. a distance of two hundred thirty-two and 38/100 feet (232.38') to a point on the Westerly sideline of Winter Street as shown on Land Court Plan 30618-B and the point of beginning

Said Lot A containing 4,010 square feet, more or less as shown on said plan.

TOGETHER WITH the easements set forth in that certain Reciprocal Access and Utility Easement dated March 31, 1998 recorded in Book 28405, Page 421 and filed as Document No. 1061070; as amended by that certain First Amendment to Reciprocal Access and Utility Easement and to Reciprocal Easement Agreement dated September 10, 1998 recorded in Book 29108, Page 346 and filed as Document No. 1079645; and as further affected by that certain Easement Modification Agreement dated November 25, 2014 recorded in Book 64649, Page 225.

TOGETHER WITH the easements set forth in that certain Reciprocal Easement Agreement dated March 31, 1998 recorded in Book 28405, Page 443 and filed as Document No. 1061071 on Plan No.352 of 1998; as amended by that certain First Amendment to Reciprocal Access and Utility Easement and to Reciprocal Easement Agreement dated September 10, 1998 recorded in Book 29108, Page 346 and filed as Document No. 1079645; as further affected by that certain (i) Easement Modification Agreement dated November 25, 2014 recorded in Book 64649, Page 225, (ii)Agreement RE: Reciprocal Easement Agreement recorded in Book 68618, Page 378; and (iii) Agreement RE: Reciprocal Easement Agreement recorded in Book 71378, Page 543.

EXHIBIT C TO LEASE

WORK LETTER

THIS WORK LETTER dated February ___, 2022 (this "**Work Letter**") is made and entered into by and between **ARE-WINTER STREET PROPERTY, LLC**, a Delaware limited liability company ("**Landlord**"), and **INTELLIA THERAPEUTICS, INC.**, a Delaware corporation ("**Tenant**"), and is attached to and made a part of the Lease Agreement dated February ___, 2022 (the "**Lease**"), by and between Landlord and Tenant. Any initially capitalized terms used but not defined herein shall have the meanings given them in the Lease.

1. **General Requirements**.

(a) **Tenant's Authorized Representative**. Tenant designates Gerald (Pat) Marolda, Jr. (such individual acting alone, "**Tenant's Representative**") as the only person authorized to act for Tenant pursuant to this Work Letter. Landlord shall not be obligated to respond to or act upon any request, approval, inquiry or other communication ("**Communication**") from or on behalf of Tenant in connection with this Work Letter unless such Communication is in writing from Tenant's Representative. Tenant may change either Tenant's Representative at any time upon not less than 5 business days advance written notice to Landlord. Neither Tenant nor Tenant's Representative shall be authorized to direct Landlord's contractors in the performance of Landlord's Work (as hereinafter defined).

(b) **Landlord's Authorized Representative**. Landlord designates Ivan Kousidis and Paul Tedesco (either such individual acting alone, "**Landlord's Representative**") as the only persons authorized to act for Landlord pursuant to this Work Letter. Tenant shall not be obligated to respond to or act upon any request, approval, inquiry or other Communication from or on behalf of Landlord in connection with this Work Letter unless such Communication is in writing from Landlord's Representative. Landlord may change either Landlord's Representative at any time upon not less than 5 business days advance written notice to Tenant. Landlord's Representative shall be the sole persons authorized to direct Landlord's contractors in the performance of Landlord's Work.

(c) **Architects, Consultants and Contractors**. Landlord and Tenant hereby acknowledge and agree that: (i) the Richmond Group shall be the design build contractor and the general contractor (the "**Design Build Contractor**") for the Tenant Improvements, (ii) DiMella Shaffer shall be the architect (the "**TI Architect**") for the Tenant Improvements, (iii) either CRB Group or DPS, as selected by Tenant within 5 days following the date of this Lease, shall be the process architect (the "**Process Architect**") for the Tenant Improvements, (iv) Environmental Systems, Inc. shall be the MEP Engineer for the Tenant Improvements ("**MEP Engineer**"), and (v) any subcontractors for the Tenant Improvements shall be selected by Landlord, subject to Tenant's approval, which approval shall not be unreasonably withheld, conditioned or delayed. For the avoidance of doubt, to the extent that Landlord has entered into agreements with the Design Build Contractor, TI Architect, Process Architect and/or MEP Engineer pursuant to which such party(ies) shall be performing work with respect to the Base Building Improvements, Landlord shall enter into separate contracts with respect to the Tenant Improvements pursuant to which such party(ies) shall, among other things, agree to reasonably cooperate with Tenant and its contractors with respect to Tenant's initial fit-out of the Premises and FF&E Installation (as defined below). Landlord shall make its records with respect to the Tenant Improvements available on an "open book" basis through the design and construction of the Tenant Improvements.

2. **Tenant Improvements**.

(a) **Tenant Improvements Defined**. As used herein, "**Tenant Improvements**" shall mean all improvements to the Project of a fixed and permanent nature as shown on the TI Construction Drawings, as defined in Section 2(c) below. Other than Landlord's Work (as defined in Section 3(a)) below, Landlord shall not have any obligation whatsoever with respect to the finishing of the Premises for Tenant's use and occupancy. Tenant acknowledges and agrees that Tenant shall be responsible, at Tenant's cost, for the

installation and validation of Tenant's furniture, fixtures and equipment in the Premises ("**FF&E Installation**") following the Commencement Date.

(b) **Tenant's Space Plans**. Tenant shall within 60 days after the date hereof deliver to Landlord schematic drawings and outline specifications (the "**Space Plans**") for the Tenant Improvements. To the extent that the Space Plans do not reflect the requirements of Tenant for the Tenant Improvements as discussed in the applicable Project Meetings (as defined in Section 2(e) below), which Project Meetings shall be held no less frequently than weekly until the Space Plans have been finalized, Tenant shall promptly deliver to Landlord written feedback to the Space Plans, Landlord shall consider such feedback from Tenant in good faith and, if applicable, the Space Plans shall be revised accordingly. Landlord and Tenant shall proceed collaboratively, including at Project Meetings, to advance the Space Plans until they have been approved by Landlord and Tenant. Notwithstanding anything to the contrary contained herein, Tenant shall be solely responsible for ensuring that the Space Plans reflect Tenant's requirements for the Tenant Improvements. The failure of the Space Plans to be finalized by the date set forth on the construction schedule attached hereto as **Schedule 1** (the "**Construction Schedule**") for any reason other than delays caused by Landlord or Force Majeure delays, shall constitute a Tenant Delay.

(c) **Working Drawings**. Landlord shall cause the TI Architect to prepare and deliver to Tenant for review and comment construction plans, specifications and drawings for the Tenant Improvements ("**TI Construction Drawings**") within 10 business days after Landlord and Tenant have approved the Space Plans, which TI Construction Drawings shall be prepared substantially in accordance with the Space Plans. Tenant shall be solely responsible for ensuring that the TI Construction Drawings reflect Tenant's requirements for the Tenant Improvements as discussed in the applicable Project Meetings. To the extent that the TI Construction Drawings are not consistent with the Space Plans, Tenant shall promptly deliver to Landlord written feedback to the TI Construction Drawings, Landlord shall consider such feedback from Tenant in good faith and, if applicable, the TI Construction Drawings shall be revised accordingly. Landlord and Tenant shall proceed collaboratively, including at Project Meetings, to advance the TI Construction Drawings until they have been approved by Landlord and Tenant. Tenant may not disapprove any matter that is consistent with the finalized Space Plans without submitting a Change Request (as defined in Section 4), which Change Request shall be subject to the terms of Section 4. Any disputes in connection with such comments shall be resolved in accordance with Section 2(d) hereof. Once approved by Landlord and Tenant, subject to the provisions of Section 4 below, Landlord shall not materially modify the TI Construction Drawings except as may be reasonably required in connection with the issuance of the TI Permit (as defined in Section 3(b) below). The failure of the TI Construction Drawings to be finalized by the date set forth on the Construction Schedule for any reason other than delays caused by Landlord or Force Majeure, shall constitute a Tenant Delay.

(d) **Approval and Completion**. It is hereby acknowledged by Landlord and Tenant that the TI Construction Drawings must be completed and approved not later than the date reflected on the Construction Schedule in order for the Landlord's Work to be Substantially Complete by the Target Commencement Date (as defined in the Lease). Upon any dispute regarding the design of the Tenant Improvements, which is not settled within 10 business days after notice of such dispute is delivered by one party to the other, Tenant may make the final decision regarding the design of the Tenant Improvements, provided (i) Tenant acts reasonably and such final decision is either consistent with or a compromise between Landlord's and Tenant's positions with respect to such dispute, (ii) that all costs and expenses resulting from any such decision by Tenant shall be payable out of the TI Fund (as defined in Section 5(d) below), and (iii) Tenant's decision will not affect the base Building, structural components of the Building or any Building Systems. Any changes to the TI Construction Drawings following Landlord's and Tenant's approval of same requested by Tenant shall be processed as provided in Section 4 hereof.

(e) **Project Meetings**. The parties will hold regular project meetings (each, a "**Project Meeting**") to, among other things, (i) review design documents relating to Tenant Improvements, and (ii) review the current schedule and the progress of the design and construction of the Tenant Improvements, including anticipated delays, if any, and (iii) observation of the status of construction of the Tenant Improvements. Any such observation shall be conducted under the supervision of the Design Build Contractor and shall be subject to the Design Build Contractor's rules and safety requirements. The Project Meetings shall be

attended by Landlord's Representative, Tenant's Representative, the Design Build Contractor, the TI Architect, the Process Architect, and other appropriate members of the design and construction team (as appropriate given the time and subject of the particular Project Meeting).

3. **Performance of Landlord's Work**.

(a) **Definition of Landlord's Work**. As used herein, "**Landlord's Work**" shall mean (i) the work of constructing the Tenant Improvements which shall be paid for out of the TI Fund, and (ii) the construction of the base building work and related improvements (the "**Base Building Improvements**") consisting of the elements identified on the Landlord/Tenant Responsibility Matrix attached hereto as **Schedule 2** (the "**Responsibility Matrix**").

With respect to the Responsibility Matrix, the column labelled as "Landlord" identifies the work to be performed by Landlord at Landlord's cost and the column labelled as "Tenant" refers to the work being performed by Landlord and paid for out of the TI Fund.

Tenant shall be solely responsible for ensuring that the design and specifications for Landlord's Work are consistent with Tenant's requirements. Landlord shall be responsible for obtaining all permits, approvals and entitlements necessary for Landlord's Work, but shall have no obligation to, and shall not, secure any permits, approvals or entitlements related to Tenant's specific use of the Premises or Tenant's business operations therein.

(b) **Commencement and Permitting**. Landlord shall commence construction of the Tenant Improvements upon obtaining a building permit (the "**TI Permit**") authorizing the construction of the Tenant Improvements consistent with the TI Construction Drawings approved by Tenant. The cost of obtaining the TI Permit shall be payable from the TI Fund. Tenant shall assist Landlord in obtaining the TI Permit. If any Governmental Authority having jurisdiction over the construction of Landlord's Work or any portion thereof shall impose terms or conditions upon the construction thereof that: (i) are inconsistent with Landlord's obligations hereunder, (ii) increase the cost of constructing Landlord's Work, or (iii) will materially delay the construction of Landlord's Work, Landlord and Tenant shall reasonably and in good faith seek means by which to mitigate or eliminate any such adverse terms and conditions.

(c) **Completion of Landlord's Work**. Landlord shall substantially complete or cause to be substantially completed Landlord's Work in a good and workmanlike manner and in accordance with applicable Legal Requirements, in accordance with the TI Permit subject, in each case, to Minor Variations and normal "punch list" items of a non-material nature that do not interfere with the use of the Premises ("**Substantial Completion**" or "**Substantially Complete**"). Notwithstanding the foregoing, Landlord's Work shall not be considered Substantially Complete unless and until Landlord has obtained approval from the applicable building authority permitting lawful occupancy of the Premises. Upon Substantial Completion of Landlord's Work, Landlord shall require the TI Architect and the Design Build Contractor to execute and deliver, for the benefit of Tenant and Landlord, a Certificate of Substantial Completion in the form of the American Institute of Architects ("**AIA**") document G704. For purposes of this Work Letter, "**Minor Variations**" shall mean any modifications reasonably required: (i) to comply with all applicable Legal Requirements and/or to obtain or to comply with any required permit (including the TI Permit); (ii) to comply with any request by Tenant for modifications to Landlord's Work; (iii) to comport with good design, engineering, and construction practices that are not material; or (iv) to make reasonable adjustments for field deviations or conditions encountered during the construction of Landlord's Work.

(d) **Selection of Materials**. Where more than one type of material or structure is indicated on the TI Construction Drawings approved by Landlord and Tenant, the option will be selected at Landlord's reasonable discretion, but in consultation with Tenant. As to all building materials and equipment that Landlord is obligated to supply under this Work Letter, Landlord shall select the manufacturer thereof in its reasonable discretion, but in consultation with Tenant.

(e) **Delivery of the Premises**. When Landlord's Work is Substantially Complete, subject to the remaining terms and provisions of this Section 3(e), Tenant shall accept the Premises. Tenant's taking possession and acceptance of the Premises shall not constitute a waiver of: (i) any warranty with respect to workmanship (including installation of equipment) or material (exclusive of equipment provided directly by manufacturers), (ii) any non-compliance of Landlord's Work with applicable Legal Requirements, or (iii) any claim that Landlord's Work was not completed substantially in accordance with the TI Construction Drawings (subject to Minor Variations and such other changes as are permitted hereunder) (collectively, a "**Construction Defect**"). Tenant shall have one year after Substantial Completion within which to notify Landlord of any such Construction Defect discovered by Tenant, and Landlord shall use reasonable efforts to remedy or cause the responsible contractor to remedy any such Construction Defect within 30 days thereafter. Notwithstanding the foregoing, Landlord shall not be in default under the Lease if the applicable contractor, despite Landlord's reasonable efforts, fails to remedy such Construction Defect within such 30-day period, in which case Landlord shall have no further obligation with respect to such Construction Defect other than to cooperate, at no cost to Landlord, with Tenant should Tenant elect to pursue a claim against such contractor, provided that Tenant shall defend with counsel reasonably acceptable to Landlord, indemnify and hold Landlord harmless from and against any claims arising out of or in connection with any such claim.

Tenant shall be entitled to receive the benefit of all construction warranties and manufacturer's equipment warranties relating to equipment installed in the Premises. If requested by Tenant, Landlord shall attempt to obtain extended warranties from manufacturers and suppliers of such equipment, but the cost of any such extended warranties shall be borne solely out of the TI Fund. Landlord shall promptly undertake and complete, or cause to be completed, all punch list items.

(f) **Commencement Date Delay**. Except as otherwise provided in the Lease, Delivery of the Premises shall occur when Landlord's Work has been Substantially Completed, except to the extent that completion of Landlord's Work shall have been actually delayed by any one or more of the following causes ("**Tenant Delay**"):

(i) Tenant's Representative was not available within the time period set forth in this Work Letter (or, if no time period is set forth in this Work Letter, then within 2 business days following receipt of written notice) to give or receive any Communication or to take any other action required to be taken by Tenant hereunder;

(ii) Tenant's request for Change Requests (as defined in Section 4(a) below) whether or not any such Change Requests are actually performed;

(iii) Construction of any Change Requests;

(iv) Tenant's request for materials, finishes or installations requiring unusually long lead times, provided that promptly after Landlord learns of such long lead times, Landlord informs Tenant that the requested items will require unusually long lead times; provided that if the delay is due to a Supply Chain Delay, it shall not be a Tenant Delay to the extent the Target Commencement Date is delayed by a Supply Chain Delay pursuant to Section 2 of the Lease;

(v) Tenant's delay in reviewing, revising or approving plans and specifications beyond the periods set forth herein;

(vi) Tenant's delay in providing information critical to the normal progression of the Project. Tenant shall provide such information as soon as reasonably possible, but in no event longer than one week after receipt of any request for such information from Landlord;

(vii) Tenant's delay in making payments to Landlord for Excess TI Costs (as defined in Section 5(d) below); or

(viii) Any other act or omission by Tenant or any Tenant Party (as defined in the Lease), or persons employed by any of such persons that continues for more than 2 business days after Tenant's receipt of written notice thereof.

If Delivery is delayed for any of the foregoing reasons, then Landlord shall cause the TI Architect to certify the date on which the Tenant Improvements would have been Substantially Completed but for such Tenant Delay and such certified date shall be the date of Delivery.

4. **Changes**. Any changes requested by Tenant to the Tenant Improvements after the delivery and approval by Landlord of the Space Plan shall be requested and instituted in accordance with the provisions of this Section 4 and shall be subject to the written approval of Landlord and the TI Architect, such approval not to be unreasonably withheld, conditioned or delayed.

(a) **Tenant's Request For Changes**. If Tenant shall request changes to the Tenant Improvements ("**Changes**"), Tenant shall request such Changes by notifying Landlord 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 such Change. Such Change Request must be signed by Tenant's Representative. Landlord shall, before proceeding with any Change, use commercially reasonable efforts to respond to Tenant as soon as is reasonably possible with an estimate of: (i) the time it will take, and (ii) the architectural and engineering fees and costs that will be incurred, to analyze such Change Request (which costs shall be paid from the TI Fund to the extent actually incurred, whether or not such change is implemented). Landlord shall thereafter submit to Tenant in writing, within 5 business days of receipt of the Change Request (or such longer period of time as is reasonably required depending on the extent of the Change Request), an analysis of the additional cost or savings involved, including, without limitation, architectural and engineering costs and the period of time, if any, that the Change will extend the date on which Landlord's Work will be Substantially Complete. Any such delay in the completion of Landlord's Work caused by a Change, including any suspension of Landlord's Work while any such Change is being evaluated and/or designed, shall be Tenant Delay.

(b) **Implementation of Changes**. If Tenant approves in writing the cost or savings and the estimated extension in the time for completion of Landlord's Work, if any, Landlord shall cause the approved Change to be instituted. Notwithstanding any approval or disapproval by Tenant of any estimate of the delay caused by such proposed Change, the TI Architect's determination of the amount of Tenant Delay in connection with such Change shall be final and binding on Landlord and Tenant.

5. **Costs**.

(a) **Budget For Tenant Improvements**. Before the commencement of construction of the Tenant Improvements, Landlord shall obtain and submit for Tenant's approval (which approval shall not be unreasonably withheld, conditioned or delayed) a detailed breakdown by trade of the costs incurred or anticipated to be incurred in connection with the design and construction of the Tenant Improvements (as may be amended by time to time, the "**Budget**"). Notwithstanding anything to the contrary contained herein, if Tenant does not deliver notice to Landlord of its approval or disapproval of the initial draft of the Budget within 5 business days after Landlord's delivery to Tenant of the initial draft of the Budget or any revised draft Budget or amendment to the Budget within 3 business days after Landlord's delivery to Tenant of such revised draft Budget or amendment to the Budget, Tenant shall be deemed to have approved such Budget or amendment, as applicable. The Budget shall be based upon the TI Construction Drawings approved by Tenant and shall include a payment to Landlord of administrative rent ("**Administrative Rent**") equal to the lesser 3% of the TI Costs or $1,000,000.00, for monitoring and inspecting the construction of the Tenant Improvements and Changes, which sum shall be payable from the TI Fund (as defined in Section 5(d)).

(b) **TI Allowance**. Landlord shall provide to Tenant a tenant improvement allowance (collectively, the "**TI Allowance**") as follows:

1. a "**Tenant Improvement Allowance**" in the maximum amount of $250.00 per rentable square foot in the Premises, which is included in the Base Rent set forth in the Lease; and

2. an " **Additional Tenant Improvement Allowance**" in the maximum amount of $150.00 per rentable square foot in the Premises, which shall, to the extent used, result in TI Rent as set forth in Section 4(b) of the Lease.

Landlord and Tenant hereby acknowledge and agree that Tenant has agreed to use and apply a portion of the Additional Tenant Improvement Allowance equal to $50.00 per rentable square foot of the Premises toward TI Costs. Prior to the first monthly draw with respect to which Tenant would be responsible for the payment of Excess TI Costs pursuant to Section 5(d) below, Tenant shall notify Landlord if Tenant has elected to use any additional portion of the Additional Tenant Improvement Allowance over and above the $50.00 per rentable square foot referenced above. If Tenant does not initially elect to apply the full amount of the Additional Tenant Improvement Allowance, Tenant shall have the right to subsequently (but in no event later than the date that Tenant Improvements are Substantially Completed) elect, by delivery of written notice to Landlord, to apply any portion of the Additional Tenant Improvement Allowance then remaining available. The TI Allowance shall be disbursed in accordance with this Work Letter.

Tenant shall have no right to the use or benefit (including any reduction to or payment of Base Rent) of any portion of the TI Allowance not applied toward TI Costs. Notwithstanding the foregoing, to the extent that, if, upon the completion of the Tenant Improvements and the payment of all sums due in connection therewith there remains any undisbursed portion of the Additional Tenant Improvement Allowance, Landlord shall make available to Tenant for use during the first 36 calendar months after the Commencement Date (the "**Alterations Allowance Outside Date**"), an "**Alterations Allowance**" equal to the unexpended portion of the Additional Tenant Improvement Allowance for the reimbursement to Tenant of reasonable costs incurred by Tenant for fixed and permanent Alterations in the Premises performed by Tenant in accordance with Section 12 of the Lease (as evidenced by invoices delivered to Landlord along with Tenant's written request for reimbursement of such amounts), which Alterations Allowance shall, to the extent used, result in Alterations Allowance Rent as set forth in Section 4(c) of the Lease. Any portion of the Alterations Allowance remaining undisbursed as of the Alterations Allowance Outside Date shall deemed to have been forfeited by Tenant and Tenant shall have no further right to any portion of such undisbursed Alterations Allowance.

(c) **Costs Includable in TI Fund**. The TI Fund shall be used solely for the payment of hard and soft costs incurred for the design, permitting and construction of the Tenant Improvements including, without limitation, architectural, engineering and project management fees, the cost of electrical power and other utilities used in connection with the construction of the Tenant Improvements, the cost of preparing the Space Plans and the TI Construction Drawings, all costs set forth in the Budget, including the Administrative Rent and Landlord's out-of-pocket expenses, and the cost of Changes (collectively, "**TI Costs**"). Notwithstanding anything to the contrary contained herein, the TI Fund shall not be used to purchase any furniture, personal property or other non-Building system materials or equipment, including, but not limited to, Tenant's voice or data cabling, non-ducted biological safety cabinets and other scientific equipment not incorporated into the Tenant Improvements.

(d) **Excess TI Costs**. Landlord shall have no obligation to bear any portion of the cost of any of the Tenant Improvements except to the extent of the TI Allowance. If at any time and from time-to-time, the remaining TI Costs under the Budget (including the amount of portion of the Budget allocated as contingency) exceed the remaining unexpended TI Allowance ("**Excess TI Costs**"), monthly disbursements of the TI Allowance shall be made on a "pari passu" basis in the proportion that the remaining TI Allowance bears to the outstanding TI Costs under the Budget, and Tenant shall fund the balance of each such monthly draw. For purposes of any litigation instituted with regard to such amounts, those amounts required to be paid by Tenant will be deemed Rent under the Lease. The TI Allowance and Excess TI Costs are herein referred to as the "**TI Fund**." Notwithstanding anything to the contrary set forth in this Section 5(d), Tenant shall be fully and solely liable for TI Costs and the cost of Minor Variations in excess of the Tenant Improvement Allowance and, if elected, the Additional Tenant Improvement Allowance.

6. **Tenant Access**.

(a) **Tenant's Access Rights**. Landlord hereby agrees to permit Tenant (and its representatives and agents) access, at Tenant's sole risk and expense, to the Building (i) 30 days prior to the Commencement Date (and/or at such other times prior to such 30-day period as may be reasonably agreed upon by Landlord and Tenant) to perform any work ("**Tenant's Work**") required by Tenant other than Landlord's Work, provided that such Tenant's Work is coordinated with the TI Architect and the Design Build Contractor, and complies with the Lease and all other reasonable restrictions and conditions Landlord may impose, and (ii) prior to the completion of Landlord's Work, to inspect and observe work in process and consult with Landlord, the TI Architect and the Design Build Contractor regarding the same; all such access shall be during normal business hours or at such other times as are reasonably designated by Landlord. Notwithstanding the foregoing, Tenant shall have no right to enter onto the Premises or the Project unless and until Tenant shall deliver to Landlord evidence reasonably satisfactory to Landlord demonstrating that any insurance reasonably required by Landlord in connection with such pre-commencement access (including, but not limited to, any insurance that Landlord may require pursuant to the Lease) is in full force and effect. Any entry by Tenant shall comply with all established safety practices of Landlord's contractor and Landlord until completion of Landlord's Work and acceptance thereof by Tenant.

(b) **No Interference**. Neither Tenant nor any Tenant Party (as defined in the Lease) shall interfere with the performance of Landlord's Work, nor with any inspections or issuance of final approvals by applicable Governmental Authorities, and upon any such interference, Landlord shall have the right to temporarily suspend access to the Premises and Project by Tenant and any Tenant Party until Landlord is able to proceed with Landlord's Work and access to the Premises and the Project by Tenant and any Tenant Party no longer interferes with Landlord's Work.

(c) **No Acceptance of Premises**. The fact that Tenant may, with Landlord's consent, enter into the Project prior to the date Landlord's Work is Substantially Complete for the purpose of performing Tenant's Work shall not be deemed an acceptance by Tenant of possession of the Premises, but in such event Tenant shall defend with counsel reasonably acceptable by Landlord, indemnify and hold Landlord harmless from and against any loss of or damage to Tenant's property, completed work, fixtures, equipment, materials or merchandise, and from liability for death of, or injury to, any person, caused by the act or omission of Tenant or any Tenant Party.

7. **Miscellaneous**.

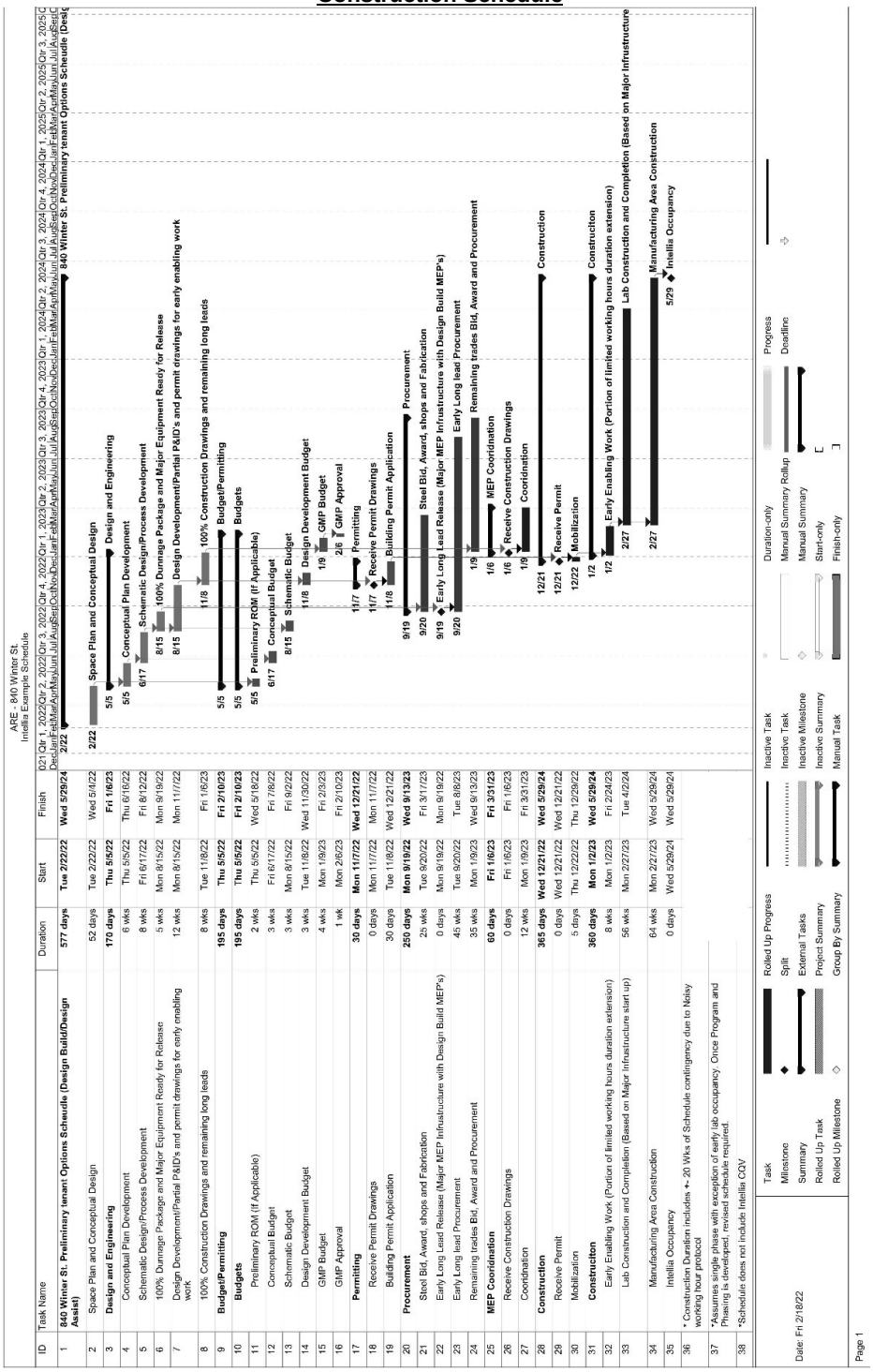
(a) **Consents**. Whenever consent or approval of either party is required under this Work Letter, that party shall not unreasonably withhold, condition or delay such consent or approval, unless expressly set forth herein to the contrary.

(b) **Modification**. No modification, waiver or amendment of this Work Letter or of any of its conditions or provisions shall be binding upon Landlord or Tenant unless in writing signed by Landlord and Tenant.

(c) **No Default Funding**. In no event shall Landlord have any obligation to fund any portion of the TI Allowance or to perform any Landlord's Work during any period that Tenant is in Default under the Lease.

Schedule 1

Construction Schedule



ID	Task Name	Duration	Start	Finish
1	**840 Winter St. Preliminary tenant Options Schedule (Design Build/Design Assist)**	**577 days**	**Tue 2/22/22**	**Wed 5/29/24**
2	Space Plan and Conceptual Design	52 days	Tue 2/22/22	Wed 5/4/22
3	**Design and Engineering**	**170 days**	**Thu 5/5/22**	**Fri 1/6/23**
4	Conceptual Plan Development	6 wks	Thu 5/5/22	Thu 6/16/22
5	Schematic Design/Process Development	8 wks	Fri 6/17/22	Fri 8/12/22
6	100% Dunnage Package and Major Equipment Ready for Release	5 wks	Mon 8/15/22	Mon 9/19/22
7	Design Development/Partial P&ID's and permit drawings for early enabling work	12 wks	Mon 8/15/22	Mon 11/7/22
8	100% Construction Drawings and remaining long leads	8 wks	Tue 11/8/22	Fri 1/6/23
9	**Budget/Permitting**	**195 days**	**Thu 5/5/22**	**Fri 2/10/23**
10	**Budgets**	**195 days**	**Thu 5/5/22**	**Fri 2/10/23**
11	Preliminary ROM (If Applicable)	2 wks	Thu 5/5/22	Wed 5/18/22
12	Conceptual Budget	3 wks	Fri 6/17/22	Fri 7/8/22
13	Schematic Budget	3 wks	Mon 8/15/22	Fri 9/2/22
14	Design Development Budget	3 wks	Tue 11/8/22	Wed 11/30/22
15	GMP Budget	4 wks	Mon 1/9/23	Fri 2/3/23
16	GMP Approval	1 wk	Mon 2/6/23	Fri 2/10/23
17	**Permitting**	**30 days**	**Mon 11/7/22**	**Wed 12/21/22**
18	Receive Permit Drawings	0 days	Mon 11/7/22	Mon 11/7/22
19	Building Permit Application	30 days	Tue 11/8/22	Wed 12/21/22
20	**Procurement**	**250 days**	**Mon 9/19/22**	**Wed 9/13/23**
21	Steel Bid, Award, shops and Fabrication	25 wks	Tue 9/20/22	Fri 3/17/23
22	Early Long Lead Release (Major MEP Infrastructure with Design Build MEP's)	0 days	Mon 9/19/22	Mon 9/19/22
23	Early Long lead Procurement	45 wks	Tue 9/20/22	Tue 8/8/23
24	Remaining trades Bid, Award and Procurement	35 wks	Mon 1/9/23	Wed 9/13/23
25	**MEP Coordination**	**60 days**	**Fri 1/6/23**	**Fri 3/31/23**
26	Receive Construction Drawings	0 days	Fri 1/6/23	Fri 1/6/23
27	Coordination	12 wks	Mon 1/9/23	Fri 3/31/23
28	**Construction**	**365 days**	**Wed 12/21/22**	**Wed 5/29/24**
29	Receive Permit	0 days	Wed 12/21/22	Wed 12/21/22
30	Mobilization	5 days	Thu 12/22/22	Thu 12/29/22
31	**Construction**	**360 days**	**Mon 1/2/23**	**Wed 5/29/24**
32	Early Enabling Work (Portion of limited working hours duration extension)	8 wks	Mon 1/2/23	Fri 2/24/23
33	Lab Construction and Completion (Based on Major Infrastructure start up)	56 wks	Mon 2/27/23	Tue 4/2/24
34	Manufacturing Area Construction	64 wks	Mon 2/27/23	Wed 5/29/24
35	Intellia Occupancy	0 days	Wed 5/29/24	Wed 5/29/24
36	* Construction Duration includes +- 20 Wks of Schedule contingency due to Noisy working hour protocol			
37	*Assumes single phase with exception of early lab occupancy. Once Program and Phasing is developed, revised schedule required.			
38	*Schedule does not include Intellia CQV			

Schedule 2

Landlord/Tenant Matrix

Description	Landlord	Tenant
SITEWORK		
Telephone service to main demarcation room from local exchange carrier	X	
Domestic sanitary sewer connection to street	X	
Lab waste sewer connection to individual tenant pH neutralization system- Connected to Building Sanitary		X
Roof storm drainage	X	
Eversource primary and secondary electrical service with Customer Switching Station	X	
National Grid gas service	X	
Domestic water service to Building	X	
Approved Loading and site modification design for loading areas and generators	X	
Approved site modification design for Tenant bulk tanks or exterior utilities	X	
Site modifications for generators or tenant utilities.		X
Fire protection water service to Building	X	
STRUCTURE		
Structural enhancements for specific Tenant load requirements (Super Structure)	X	
Structural framing for dunnage above roof for Base Building equipment	X	
Structural framing dunnage above roof for Tenant equipment (Intermediate structure, grating, Dunnage Stairs etc.- Subject to Landlord review and approval) Review		X
Structural framing for infills within the building for Added USF	X	
Framed openings for Base Building utility risers	X	
Framed openings for Tenant utility risers in addition to Base Building.		X
Miscellaneous metals items and/or concrete pads for Base Building equipment	X	
Provide code compliant rated floor and structure	X	
Miscellaneous metals items and/or concrete pads for Tenant equipment		X
ROOFING		
Single ply EPDM roofing system with rigid insulation	X	
Roofing penetrations for Base Building equipment/systems	X	
Roofing penetrations for Tenant equipment/systems (Subject to Landlord review and approval)		X
Walkway pads to Base Building equipment	X	
Walkway pads to Tenant equipment		X
Roofing alterations due to Tenant changes (Subject to Landlord review and approval)		X
EXTERIOR		
Building exterior	X	
Main Building entrances	X	

Shipping/Receiving Docks – [2 docks plus 3rd waste removal staging and doorway]	X	
Visual screening of Base Building rooftop equipment as required and applicable	X	
Visual screening of Tenant rooftop equipment on landlord provided dunnage super structure (space available within base building screening) – as required and applicable	X	
COMMON AREAS		
Accessible main entrance	X	
Finished building common main lobby	X	
Finished Common zones on ancillary floors. (Elevator lobbies etc.)	X	
Core area toilet rooms (feeding common areas)	X	
Janitor's closets in core areas	X	
Primary demarcation room	X	
Doors, frames, and hardware at common areas	X	
ELEVATORS		
1 Building Common Passenger	X	
1 Tenant Freight Elevator	X	
WINDOW TREATMENT		
Furnish and install Building standard blinds for all windows - standard to be set by Landlord		X
Furnish and install standard blinds above and beyond existing window treatments – to be approved by landlord if visible from building exterior.		X
TENANT AREAS		
Insulation at perimeter walls where/if applicable		X
Finishes and framing at inside face of exterior walls		X
Finishes at inside face at Tenant side of core partitions		X
Toilet rooms within Tenant Premises in addition to those provided by base building		X
Electrical closets within Tenant Premises		X
Tel/data rooms for interconnection with Tenant tel/data		X
Tenant kitchen areas		X
Modifications to core areas to accommodate Tenant requirements		X
Partitions, ceilings, flooring, painting, finishes, doors, frames, hardware, millwork, casework, equipment, and buildout.		X
Fixed or movable casework.		X
Laboratory Equipment including but not limited to biosafety cabinets, autoclaves, glasswashers.		X
Chemical Fume Hoods, bench fume hood		X
Finishes at common corridors on floors with multiple Tenants within redeveloped space	X	
Shaft enclosures for Base Building systems' risers	X	
Shaft enclosures for Tenant risers (in addition to risers put in place for tenant use)		X
Ability for Control Areas per building Capabilities	X	
Tenant Fit out Upgrades or modifications to Base building Scope required by Tenant Insurer		X
FIRE PROTECTION		

Fire service entrance including fire department connection, alarm valve, and flow protection	X	
Core area distribution piping and sprinkler heads	X	
Stair distribution piping and sprinkler heads	X	
All run outs, drop heads, and related equipment within Tenant premises		X
Modification of sprinkler piping and head locations to suit Tenant layout and hazard index		X
Specialized extinguishing systems or containment for tenant program areas		X
Pre-action dry-pipe systems		X
Fire extinguisher cabinets at core areas	X	
Fire extinguisher cabinets in Tenant Premises		X
PLUMBING		
Domestic water service with backflow prevention and Base Building risers	X	
Domestic water distribution within Tenant Premises		X
Core restroom plumbing fixtures compliant with accessibility requirements and anticipated lab/office occupancy load.	X	
Tenant restroom plumbing fixtures compliant with accessibility requirements (in addition to those provided by the Base Building)		X
Non-potable cold water backflow preventers for tenant use		X
Non-potable cold water distribution in Tenant Premises		X
Wall hydrants in core areas (where required by code)	X	
Storm drainage system	X	
Sanitary waste and vent service	X	
Domestic Waste Connection in pH Pit- 4 Inch Connection		X
Dedicated two stage active pH neutralization system (For tenant lab and MFG)		X
MWRA permit for dedicated pH neutralization system		X
Domestic Cold water connection - 4 Inch Connection	X	
Pits if applicable and designed inverts for waste treatment systems to be installed by Tenant		X
Lab waste and vent pipe distribution		X
Hot water generation for core restrooms	X	
Non-potable Hot water generation and risers for Tenant use		X
Non-potable hot water distribution in Tenant Premises		X
Central lab air compressor and piping risers for PD lab use		X
Air compressor and piping risers for dedicated Tenant MFG use		X
Compressed air pipe distribution in Tenant Premises for specific points of use		X
Central lab vacuum system and pipe risers		X
Lab vacuum system and pipe risers for dedicated Tenant MFG use		X
Lab vacuum pipe distribution in Tenant Premises for specific points of use		X
Tepid water generator and pipe risers for full PD/MFG lab use		X
Tepid water pipe distribution in Tenant Premises		X
RO/DI water generator and pipe risers		X
RO/DI water pipe distribution in Tenant Premises for specific points of use		X
Manifolds, piping, and other requirements including cylinders, not specifically mentioned above		X

NATURAL GAS		
Natural gas service to Building and piping to Base Building boilers and equipment	X	
Natural gas service, pressure regulator and meter for Tenant equipment		X
Natural gas piping from Tenant meter to Tenant Premises or Tenant equipment area.		X
Pro Rata share of remaining Gas Capacity 2,100 CFH	X	
Natural gas pipe distribution within Tenant Premises		X
Natural gas pressure regulator vent pipe riser from valve location through roof		X
HEATING, VENTILATION, AIR CONDITIONING		
Building Management System (BMS) for core area and Landlord infrastructure	X	
BMS (compatible with Landlord's system) within Tenant Premises and Tenant infrastructure		X
Once-through supply air handling units and recirculating units for Manufacturing area		X
Roof mounted exhaust fans and heat recovery system for manufacturing area		X
Office ventilation air		X
Fan coils for office cooling/heating and supplemental lab cooling		X
2,000 Ton chiller plant (4) Nominal 500 Ton Chillers, associated pumps, cooling towers, and controls. 20,000 MBH hot water plants – (6) 4,000MBH Condensing Boilers (N+1) , associated pumps, stacks, specialties and controls.	X	
Hot water reheat distribution to reheat coils		X
Chilled water risers for tenant use		x
Chilled water distribution for tenant use		X
Vertical supply Office air duct distribution		X
Supply air duct distribution, VAV terminals, equipment connections, insulation, air terminals, dampers, hangers, etc. within Tenant Premises.		X
Supply air duct distribution, VAV terminals, equipment connections, insulation, air terminals, dampers, hangers, etc. within core areas.	X	
Roof mounted laboratory exhaust fans and heat recovery system for general lab exhaust		X
Vertical exhaust air duct risers for general lab exhaust		X
Roof mounted laboratory exhaust fans for specialty exhaust systems. Subject to Landlord approval prior to installation.		X
Vertical exhaust air duct risers and shaft for dedicated fume hood or specialty exhaust systems		X
Exhaust air duct distribution, exhaust air valves, equipment connections, insulation, air terminals, dampers, hangers, etc. within Tenant Premises.		X
Exhaust air duct distribution, exhaust air valves, equipment connections, insulation, air terminals, dampers, hangers, etc. within core areas	X	
General Exhaust for Tenant H2, H3 Rooms		X
Restroom exhaust for core area restrooms	X	
Restroom exhaust for restrooms within Tenant Premises		X
Electric room ventilation system for Base Building electrical closets	X	

Electric room ventilation system for electrical closets within Tenant premises		X
Sound attenuation for Base Building infrastructure to comply with local Noise Ordinance	X	
Sound attenuation for Tenant equipment to comply with local Noise Ordinance		X
ELECTRICAL		
Electrical utility service to switchgear in main electrical vault, including (2) 2500KVA transformers paired with (2) Switchboards	X	
Approved pad configurations for tenant generator needs.	X	
2,000 kW Diesel fired Standby generator to support 50% of Base Building Central Chiller Plant (incl. ATS and sound attenuation to comply with local noise ordinance)	X	
Dedicated Standby Generator for Tenant lab and manufacturing needs		X
Sound attenuation for tenant generator to comply with local Noise Ordinance		X
Automatic transfer switch for Tenant generator connections to the heating and cooling plant		X
Standby power distribution within Tenant Premises		X
Switchboard capacity and circuiting to Chiller and Boiler Plants	X	
Switchboard capacity to provide 2,164,593 watts for Tenant Fitout needs	X	
Lighting and power distribution for Tenant Premises		X
Tenant power sub-metering with connection to BMS		X
• Common area life safety emergency lighting/signage	X	
Tenant Premises life safety emergency lighting/signage		X
Tenant panels, transformers, etc. in addition to Base Building		X
Tenant UPS system, battery backup, and associated equipment/distribution		X
FIRE ALARM		
Base Building fire alarm system with devices in core areas	X	
Fire alarm sub panels and devices for Tenant Premises with integration into Base Building system		X
Alteration to fire alarm system to facilitate Tenant program		X
TELEPHONE/DATA		
Underground local exchange carrier service to primary demarcation room in basement	X	
Tel Data Riser Conduit from demark to each floor	X	
Tenant tel/data rooms		X
Pathways from demarcation room directly into Tenant tel/data rooms		X
Tel/Data cabling from demarcation room Tenant tel/data room.		X
Fiber optic service for Tenant use		X
Tel/data infrastructure including but not limited to servers, computers, phone systems, switches, routers, MUX panels, equipment racks, ladder racks, etc.		X
Provisioning of circuits and service from service providers		X
Audio visual systems and support		X
Station cabling from Tenant tel/data room to all Tenant locations, within the suite and exterior to the suite, if needed		X
SECURITY		
Card access at Building entries	X	

Card access into or within Tenant Premises on separate Tenant installed and managed system		X

EXHIBIT D TO LEASE

ACKNOWLEDGMENT OF COMMENCEMENT DATE

This **ACKNOWLEDGMENT OF COMMENCEMENT DATE** is made this _____ day of _____, ____, between **ARE-WINTER STREET PROPERTY, LLC**, a Delaware limited liability company ("**Landlord**"), and **INTELLIA THERAPEUTICS, INC.**, a Delaware corporation ("**Tenant**"), and is attached to and made a part of the Lease dated _____, _____ (the "**Lease**"), by and between Landlord and Tenant. Any initially capitalized terms used but not defined herein shall have the meanings given them in the Lease.

Landlord and Tenant hereby acknowledge and agree, for all purposes of the Lease, that the Commencement Date of the Base Term of the Lease is _____, _____, and the termination date of the Base Term of the Lease shall be midnight on _____, _____. In case of a conflict between the terms of the Lease and the terms of this Acknowledgment of Commencement Date, this Acknowledgment of Commencement Date shall control for all purposes.

IN WITNESS WHEREOF, Landlord and Tenant have executed this ACKNOWLEDGMENT OF COMMENCEMENT DATE to be effective on the date first above written.

TENANT:

INTELLIA THERAPEUTICS, INC.,
a Delaware corporation

By:__
Name:___
Its:__

□ I hereby certify that the signature, name, and title above are my signature, name and title

[Signature continued on following page]

LANDLORD:

ARE-WINTER STREET PROPERTY, LLC,
a Delaware limited liability company

By: ARE-Winter Street Holdings, LLC,
a Delaware limited liability company,
managing member

By: ARE-MA Region No. 85 JV, LLC,
a Delaware limited liability company,
managing member

By: ARE-Special Services, LLC,
a Delaware limited liability company,
managing member

By: Alexandria Real Estate Equities, L.P.,
a Delaware limited partnership,
managing member

By: ARE-QRS Corp.,
a Maryland corporation,
general partner

By:_____
Name:_____
Its:_____

EXHIBIT E TO LEASE

Rules and Regulations

1. The sidewalk, entries, and driveways of the Project shall not be obstructed by Tenant, or any Tenant Party, or used by them for any purpose other than ingress and egress to and from the Premises.

8. Tenant shall not place any objects, including antennas, outdoor furniture, etc., in the parking areas, landscaped areas or other areas outside of its Premises, or on the roof of the Project.

9. Except for animals assisting the disabled, no animals shall be allowed in the offices, halls, or corridors in the Project.

10. Tenant shall not disturb the occupants of the Project or adjoining buildings by the use of any radio or musical instrument or by the making of loud or improper noises.

11. If Tenant desires telegraphic, telephonic or other electric connections in the Premises, Landlord or its agent will direct the electrician as to where and how the wires may be introduced; and, without such direction, no boring or cutting of wires will be permitted. Any such installation or connection shall be made at Tenant's expense.

12. Tenant shall not install or operate any steam or gas engine or boiler, or other mechanical apparatus in the Premises, except as specifically approved in the Lease. 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.

13. Parking any type of recreational vehicles is specifically prohibited on or about the Project. Except for the overnight parking of operative vehicles, no vehicle of any type shall be stored in the parking areas at any time. In the event that a vehicle is disabled, it shall be removed within 48 hours. There shall be no "For Sale" or other advertising signs on or about any parked vehicle. All vehicles shall be parked in the designated parking areas in conformity with all signs and other markings. All parking will be open parking, and no reserved parking, numbering or lettering of individual spaces will be permitted except as specified by Landlord or otherwise set forth in the Lease.

14. Tenant shall maintain the Premises free from rodents, insects and other pests.

15. Landlord reserves the right to exclude or expel from the Project any person who, in the judgment of Landlord, is intoxicated or under the influence of liquor or drugs or who shall in any manner do any act in violation of the Rules and Regulations of the Project.

16. Tenant shall not cause any unnecessary labor by reason of Tenant's carelessness or indifference in the preservation of good order and cleanliness. Landlord shall not be responsible to Tenant for any loss of property on the Premises, however occurring, or for any damage done to the effects of Tenant by the janitors or any other employee or person.

17. Tenant shall give Landlord prompt notice of any defects in the water, lawn sprinkler, sewage, gas pipes, electrical lights and fixtures, heating apparatus, or any other service equipment affecting the Premises.

18. Tenant shall not permit storage outside the Premises, including without limitation, 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 Premises.

19. All moveable trash receptacles provided by the trash disposal firm for the Premises must be kept in the trash enclosure areas, if any, provided for that purpose.

20. No auction, public or private, will be permitted on the Premises or the Project.

21. No awnings shall be placed over the windows in the Premises except with the prior written consent of Landlord.

22. The Premises shall not be used for lodging, sleeping or cooking (except that Tenant may use microwave ovens, toasters and coffee makers in the Premises for the benefit of Tenant's employees and contractors in an area designated for such items, but only if the use thereof is at all times supervised by the individual using the same) or for any immoral or illegal purposes or for any purpose other than that specified in the Lease. No commercial gaming/gambling devices shall be operated in the Premises..

23. Tenant shall ascertain from Landlord the maximum amount of electrical current which can safely be used in the Premises, taking into account the capacity of the electrical wiring in the Project and the Premises and the needs of other tenants, and shall not use more than such safe capacity. Landlord's consent to the installation of electric equipment shall not relieve Tenant from the obligation not to use more electricity than such safe capacity.

24. Tenant assumes full responsibility for protecting the Premises from theft, robbery and pilferage.

25. Tenant shall not install or operate on the Premises any machinery or mechanical devices of a nature not directly related to Tenant's ordinary use of the Premises and shall keep all such machinery free of vibration, noise and air waves which may be transmitted beyond the Premises that would interfere with the rights of other tenants or occupants of the Project.

26. Tenant shall cause any vendors and other service providers providing regular service at the Project (including, service providers hired by Tenant to perform services with respect to the Building Systems or to perform janitorial and/or waste removal services with respect to the Premises) hired by Tenant to perform services at the Premises or the Project to maintain in effect workers' compensation insurance as required by Legal Requirements and reasonable commercial general liability insurance with coverage amounts reasonably acceptable to Landlord. Tenant shall cause such vendors and service providers to name Landlord and Alexandria Real Estate Equities, Inc. as additional insureds under such policies and shall provide Landlord with certificates of insurance evidencing the required coverages (and showing Landlord and Alexandria Real Estate Equities, Inc. as additional insureds under such policies) prior to the applicable vendor or service provider providing any services to Tenant at the Project.

27. Neither Tenant nor any of the Tenant Parties shall have the right to photograph, videotape, film, digitally record or by any other means record, transmit and/or distribute any images, pictures or videos of all or any portion of the Premises or the Project that could reasonably identify the Project or the name of the Project, or that identify Landlord or any other tenants or any affiliates of Landlord or any other tenants. The foregoing is not meant to prohibit individual employees from taking and disseminating photos of themselves or other people within the Premises or at the Project so long as neither the Building nor any proprietary information, equipment or improvements of Landlord are included within such photos.

28. Tenant shall regularly review the guidelines published by the Centers for Disease Control (CDC) and any state and/or local Governmental Authorities, and will implement the practices and procedures suggested thereby, as well as industry standard best practices, to prevent the spread of Infectious Conditions, including, without limitation, COVID-19.

29. Landlord shall have the right to (a) require tenants to implement and enforce reasonable screening and tracking protocols intended to identify and track the activity at the Project of employees, agents, contractors and visitors seeking access to or accessing the Premises and or the Project exhibiting flu-like symptoms or symptoms consistent with those associated with any currently known or unknown Infectious Conditions including, without limitation, COVID-19 (collectively, "**Symptoms**"), (b) require tenant employees, agents, contractors and visitors to comply with reasonable screening and tracking protocols

implemented by Landlord, Landlord's property manager and/or any operator of Project Amenities, intended to identify and track the activity at the Project of individuals seeking access to or accessing the Premises or the Project (including the Project Amenities) exhibiting Symptoms, (c) require tenants to implement and enforce protocols to prohibit individuals exhibiting Symptoms, from accessing the Premises and/or the Project, (d) require tenants to immediately report to Landlord incidences of (i) tenant employees, agents, contractors and visitors accessing the Premises or any portion of the Project while exhibiting Symptoms, and/or (ii) tenant employees, agents, contractors and visitors known to have accessed the Premises or the Project being diagnosed with an Infectious Condition including, without limitation, COVID-19.

30. Landlord may exclude or expel from the Project any person that has Symptoms associated with any currently known or unknown Infectious Condition including, without limitation, COVID-19.

31. Notwithstanding anything to the contrary contained herein, if, at any time during the Term, Landlord becomes aware that any Tenant Party exhibiting Symptoms and/or diagnosed with an Infectious Condition had access to the Premises or any portion of the Project (including, without limitation, the Project Amenities), Tenant shall be responsible for any costs incurred by Landlord to perform additional or deep cleaning of the Premises and/or the Common Areas of the Project or to take other measures deemed reasonably necessary or prudent by Landlord which are intended to limit the spread of such Infectious Condition due to such Tenant Party's presence at the Project.

EXHIBIT F TO LEASE

TENANT'S PERSONAL PROPERTY

None.

EXHIBIT G TO LEASE

BUILDING SIGN LOCATION

DOCVARIABLE #DNDocID * MERGEFORMAT 745146120.5

Exhibit 21.1

Subsidiaries of the Registrant

Entity	State of Incorporation of Organization
Intellia Securities Corp.	Massachusetts

EXHIBIT 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-233448 and 333-251022 on Form S-3 and Registration Statement Nos. 333-211200, 333-218511, 333-229900, 333-236714 and 333-253562 on Form S-8 of our reports dated February 24, 2022, relating to the financial statements of Intellia Therapeutics, Inc., and the effectiveness of Intellia Therapeutics, Inc.'s internal control over financial reporting appearing in this Annual Report on Form 10-K for the year ended December 31, 2021.

/s/ Deloitte & Touche LLP
Boston, Massachusetts
February 24, 2022

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO RULE 13a-14(a) / RULE 15d-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, John M. Leonard, M.D., certify that:

1. I have reviewed this Annual Report on Form 10-K of Intellia Therapeutics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 24, 2022

/s/ John M. Leonard
John M. Leonard, M.D.
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO RULE 13a-14(a) / RULE 15d-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, Glenn Goddard, certify that:

1. I have reviewed this Annual Report on Form 10-K of Intellia Therapeutics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 24, 2022

/s/Glenn Goddard
Glenn Goddard
Executive Vice President, Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 32.1

**CERTIFICATIONS OF CEO AND CFO PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with this Annual Report on Form 10-K of Intellia Therapeutics, Inc. (the "Company") for the period ended December 31, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned, John M. Leonard, M.D., President and Chief Executive Officer (Principal Executive Officer) of the Company, and Glenn Goddard, Executive Vice President, Chief Financial Officer (Principal Financial and Accounting Officer) of the Company, hereby certifies, pursuant to 18 U.S.C. (section) 1350, as adopted pursuant to (section) 906 of the Sarbanes-Oxley Act of 2002, that to the best of his knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: February 24, 2022

/s/ John M. Leonard
John M. Leonard, M.D.
President and Chief Executive Officer
(Principal Executive Officer)

/s/ Glenn Goddard
Glenn Goddard
Executive Vice President, Chief Financial Officer
(Principal Financial and Accounting Officer)