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, 2020

or

☐ **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: 001-35670

Regulus Therapeutics Inc.
(Exact name of registrant as specified in its charter)

Delaware	**26-4738379**
(State or Other Jurisdiction of Incorporation or Organization)	**(I.R.S. Employer Identification No.)**
10628 Science Center Drive, Suite 225 **San Diego** **CA**	**92121**
(Address of Principal Executive Offices)	**(Zip Code)**

(858) 202-6300
(Registrant's Telephone Number, Including Area Code)
Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
Common Stock, par value $0.001 per share	RGLS	The Nasdaq Stock Market LLC

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 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. Yes ☐ No ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Securities Exchange Act of 1934). Yes ☐ No ☒

As of June 30, 2020, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was approximately $22.5 million, based on the closing price of the registrant's common stock on the Nasdaq Stock Market on June 30, 2020 of $0.68 per share.

The number of outstanding shares of the registrant's common stock, par value $0.001 per share, as of March 5, 2021 was 72,504,772.

REGULUS THERAPEUTICS INC.
TABLE OF CONTENTS

Risk Factor Summary

Below is a summary of the material factors that make an investment in our common stock speculative or risky. This summary does not address all of the risks that we face. Additional discussion of the risks summarized in this risk factor summary, and other risks that we face, can be found below under the heading "Risk Factors" under Part I, Item 1A of this Annual Report and should be carefully considered, together with other information in this Annual before making investment decisions regarding our common stock.

- The approach we are taking to discover and develop drugs is novel and may never lead to marketable products.
- We may not be successful in our efforts to identify or discover potential product candidates.
- Preclinical and clinical studies of our product candidates may not be successful. If we are unable to generate successful results from our preclinical and clinical studies of our product candidates, or experience significant delays in doing so, our business may be materially harmed.
- If clinical trials of our product candidates fail to demonstrate safety and efficacy to the satisfaction of regulatory authorities or do not otherwise produce positive results, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our product candidates.
- Any of our product candidates may cause adverse effects or have other properties that could delay or prevent their regulatory approval or limit the scope of any approved label or market acceptance.
- Even if we complete the necessary preclinical studies and clinical trials, we cannot predict whether or when we will obtain regulatory approval to commercialize a product candidate and we cannot, therefore, predict the timing of any revenue from a future product.
- We will need to raise additional capital, and if we are unable to do so when needed, we will not be able to continue as a going concern.
- Payments under the instruments governing our indebtedness may reduce our working capital. In addition, a default under our loan and security agreement could cause a material adverse effect on our financial position.
- We have incurred significant losses since our inception and anticipate that we will continue to incur significant losses for the foreseeable future.
- We have never generated any revenue from product sales and may never be profitable.
- We will depend upon collaborations for the development and eventual commercialization of certain *micro*RNA product candidates. If these collaborations are unsuccessful or are terminated, we may be unable to commercialize certain product candidates and we may be unable to generate revenues from our development programs.
- We rely on limited sources of supply for the drug substance of product candidates and any disruption in the chain of supply may cause a delay in developing and commercializing these product candidates.
- Manufacturing issues may arise that could increase product and regulatory approval costs or delay commercialization.
- We rely on third parties to conduct, supervise and monitor our clinical trials, and if those third parties perform in an unsatisfactory manner, it may harm our business.
- If we are unable to obtain or protect intellectual property rights related to our future products and product candidates, we may not be able to compete effectively in our markets.

- We face significant competition from other biotechnology and pharmaceutical companies and our operating results will suffer if we fail to compete effectively.
- Our business could be adversely affected by the effects of health pandemics or epidemics, including the ongoing COVID-19 pandemic, in regions where we or third parties on which we rely have significant manufacturing facilities, concentrations of clinical trial sites or other business operations, or materially affect our operations globally, including at our headquarters in San Diego, which is currently subject to a state executive order, and at our clinical trial sites, as well as the business or operations of our manufacturers, CROs or other third parties with whom we conduct business.
- The market price of our common stock may be highly volatile.
- We may be unable to comply with the applicable continued listing requirements of The Nasdaq Capital Market.

PART I

Forward-Looking Statements

This Annual Report on Form 10-K and the documents incorporated by reference herein may contain "forward-looking statements" within the meaning of the federal securities laws made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth below under Part I, Item 1A, "Risk Factors" in this Annual Report. Except as required by law, we assume no obligation to update these forward-looking statements, whether as a result of new information, future events or otherwise. These statements, which represent our current expectations or beliefs concerning various future events, may contain words such as "may," "will," "expect," "anticipate," "intend," "plan," "believe," "estimate" or other words indicating future results, though not all forward-looking statements necessarily contain these identifying words. Such statements may include, but are not limited to, statements concerning the following:

- the initiation, cost, timing, progress and results of, and our expected ability to undertake certain activities and accomplish certain goals with respect to our research and development activities, preclinical studies and clinical trials;
- our ability to obtain and maintain regulatory approval of our product candidates, and any related restrictions, limitations, and/or warnings in the label of an approved product candidate;
- our ability to obtain funding for our operations;
- our plans to research, develop and commercialize our product candidates;
- the potential election of any strategic collaboration partner to pursue development and commercialization of any programs or product candidates that are subject to a collaboration with such partner;
- our ability to attract collaborators with relevant development, regulatory and commercialization expertise;
- future activities to be undertaken by our strategic collaboration partners, collaborators and other third parties;
- our ability to obtain and maintain intellectual property protection for our product candidates;
- the size and growth potential of the markets for our product candidates, and our ability to serve those markets;
- our ability to successfully commercialize, and our expectations regarding future therapeutic and commercial potential with respect to our product candidates;
- the rate and degree of market acceptance of our product candidates;
- our ability to develop sales and marketing capabilities, whether alone or with potential future collaborators;
- regulatory developments in the United States and foreign countries;
- the performance of our third-party suppliers and manufacturers;
- the success of competing therapies that are or may become available;
- the loss of key scientific or management personnel;
- our ability to successfully secure and deploy capital;

- our ability to satisfy our debt obligations;
- the accuracy of our estimates regarding future expenses, future revenues, capital requirements and need for additional financing;
- the potential impact of the COVID-19 pandemic on our business; and
- the risks and other forward-looking statements described under the caption “Risk Factors” under Part I, Item 1A of this Annual Report on Form 10-K.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this report, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

Item 1. Business

We are a clinical-stage biopharmaceutical company focused on discovering and developing first-in-class drugs targeting *micro*RNAs to treat diseases with significant unmet medical need. We were formed in 2007 when Alnylam Pharmaceuticals, Inc. ("Alnylam") and Ionis Pharmaceuticals, Inc. ("Ionis") contributed significant intellectual property, know-how and financial and human capital to pursue the development of drugs targeting *micro*RNAs pursuant to a license and collaboration agreement. Our most advanced product candidates are RG-012 and RGLS4326. RG-012 is an anti-miR targeting miR-21 for the treatment of Alport syndrome, a life-threatening kidney disease with no approved therapy available. In November 2018, we and Sanofi agreed to transition further development activities of our miR-21 programs, including our RG-012 program, to Sanofi. As a result, Sanofi became responsible for all costs incurred in the development of RG-012 and any other miR-21 programs. The transition activities were completed in the second quarter of 2019. RGLS4326, an anti-miR targeting miR-17, is in Phase 1 development for the treatment of autosomal dominant polycystic kidney disease ("ADPKD"). In addition to these clinical programs, we continue to develop a pipeline of preclinical drug product candidates.

*micro*RNAs are naturally occurring ribonucleic acid ("RNA") molecules that play a critical role in regulating key biological pathways. Scientific research has shown that an imbalance, or dysregulation, of *micro*RNAs is directly linked to many diseases. Furthermore, many different infectious pathogens interact and bind to host *micro*RNA to survive. To date, over 500 *micro*RNAs have been identified in humans, each of which can bind to multiple messenger RNAs that control key aspects of cell biology. Since many diseases are multi-factorial, involving multiple targets and pathways, the ability to modulate multiple pathways by targeting a single *micro*RNA provides a new therapeutic approach for treating complex diseases.

RNA plays an essential role in the process used by cells to encode and translate genetic information from deoxyribonucleic acid ("DNA") to proteins. RNA is comprised of subunits called nucleotides and is synthesized from a DNA template by a process known as transcription. Transcription generates different types of RNA, including messenger RNAs that carry the information for proteins in the sequence of their nucleotides. In contrast, *micro*RNAs are RNAs that do not code for proteins but rather are responsible for regulating gene expression by modulating the translation and decay of target messenger RNAs. By interacting with many messenger RNAs, a single *micro*RNA can regulate the expression of multiple genes involved in the normal function of a biological pathway. Many pathogens, including viruses, bacteria and parasites, also use host *micro*RNAs to regulate the cellular environment for survival. In some instances, the host *micro*RNAs are essential for the replication and/or survival of the pathogen. For example, miR-122 is a *micro*RNA expressed in human hepatocytes and is a key factor for the replication of the hepatitis C virus ("HCV").

We believe that *micro*RNA therapeutics have the potential to become a new and major class of drugs with broad therapeutic application for the following reasons:

- *micro*RNAs play a critical role in regulating biological pathways by controlling the translation of many target genes;
- *micro*RNA therapeutics regulate disease pathways which may result in more effective treatment of complex multi-factorial diseases;
- many human pathogens, including viruses, bacteria and parasites, use *micro*RNAs (host and pathogen encoded) to enable their replication and suppression of host immune responses; and
- *micro*RNA therapeutics may be synergistic with other therapies because of their different mechanism of action.

We have assembled significant expertise in the *micro*RNA field, including expertise in *micro*RNA biology and oligonucleotide chemistry, a broad intellectual property estate, relationships with key opinion leaders and a disciplined drug

discovery and development process. We are using our *micro*RNA expertise to develop chemically modified, single-stranded oligonucleotides that we call anti-miRs to modulate *micro*RNAs and address underlying disease. We believe *micro*RNAs may play a critical role in complex disease and that targeting them with anti-miRs may become a source of a new and major class of drugs with broad therapeutic application, much like small molecules, biologics and monoclonal antibodies.

We believe that *micro*RNA biomarkers may be used to select optimal patient segments in clinical trials and to monitor disease progression or relapse. We believe these *micro*RNA biomarkers can be applied toward drugs that we develop and drugs developed by other companies with which we partner or collaborate.

Since our inception through December 31, 2020, we have received $361.8 million from the sale of our equity and convertible debt securities, $101.8 million from our strategic collaborations, principally from upfront payments, research funding and preclinical and clinical milestones, and $19.8 million in net proceeds from a Term Loan. As of December 31, 2020, we had cash and cash equivalents of $31.1 million.

Development Stage Pipeline

We currently have two programs in clinical development.

RG-012: In May 2017, we completed a Phase 1 multiple-ascending dose ("MAD") clinical trial in 24 healthy volunteers (six-week repeat dosing) to determine safety, tolerability and pharmacokinetics ("PK") of RG-012 prior to chronic dosing in patients. In Phase 1 clinical trials to date, RG-012 was well-tolerated, and there were no serious adverse events ("SAEs") reported. In the third quarter of 2017, we initiated HERA, a Phase 2 randomized (1:1), double-blinded, placebo-controlled clinical trial evaluating the safety and efficacy of RG-012 in 40 Alport syndrome patients. In parallel, a renal biopsy study was also initiated in the third quarter of 2017 to evaluate RG-012 renal tissue PK, target engagement and downstream effects on genomic disease biomarkers. Kidney tissue concentrations were achieved in biopsy patients that would be predictive of therapeutic benefit based on animal disease models. In addition, modulation of the target, miR-21, was observed. In December 2017, we concluded our global ATHENA natural history of disease study. RG-012 has received orphan designation in both the United States and Europe. In November 2018, we and Sanofi agreed to transition further development activities of our miR-21 programs, including our RG-012 program to Sanofi. As a result, Sanofi became responsible for all costs incurred in the development of these miR-21 programs. The transition activities, including the transfer of the investigational new drug application ("IND"), were completed in the second quarter of 2019. While Sanofi is currently enrolling patients into a Phase 2 clinical trial, with sites in the United States, Europe, Australia and China, we believe new site initiation and patient enrollment has been, and will continue to be, impacted by the COVID-19 pandemic.

RGLS4326: RGLS4326 is a novel oligonucleotide designed to inhibit miR-17 using a unique chemistry designed to preferentially deliver to the kidney. Preclinical studies with RGLS4326 have demonstrated a reduction in kidney cyst formation, improved kidney weight/body weight ratio, decreased cyst cell proliferation and preserved kidney function in mouse models of ADPKD. In March 2018, we completed dose escalation of a Phase 1 single ascending dose ("SAD") clinical trial in healthy volunteers and found RGLS4326 was well tolerated and no SAEs were reported. In April 2018, we initiated a Phase 1 randomized, double-blind, placebo-controlled, MAD clinical trial in healthy volunteers designed to characterize the safety, tolerability, PK and pharmacodynamics of multiple doses of RGLS4326. In July 2018, we voluntarily paused this study due to unexpected observations in our 27-week mouse chronic toxicity study, which was designed to support the Phase 2 proof-of-concept clinical trial in ADPKD previously planned to start in mid-2019. The observations in the mouse chronic toxicity study were unexpected, given the favorable safety profile of RGLS4326 in previous 7-week non-GLP and GLP toxicity studies in mouse and non-human primates required for Phase 1 testing, which had no significant findings across similar dose levels and frequencies. In September 2018, we initiated a new mouse chronic toxicity study with several changes believed to address the unexpected findings in the earlier terminated chronic mouse toxicity study.

In January 2019, we submitted a comprehensive data package for RGLS4326 to the U.S. Food and Drug Administration ("FDA") that included the results from the planned 13-week interim analysis of the ongoing repeat mouse chronic toxicity study, as well as results from additional investigations, analytical testing, additional data from the previously terminated mouse chronic toxicity study, data from the completed Phase 1 SAD study and data from the first cohort of the Phase 1 MAD study to support our plan to resume the Phase 1 MAD study. In July 2019, FDA notified us of additional nonclinical data requirements and placed the IND on a partial clinical hold, formalizing the specific requirements to re-initiate the MAD study and further proceed into studies of extended duration. The additional data requirements were outlined in two parts. In order to resume the MAD study, FDA requested the final reports from the chronic toxicity studies in both mice and non-human primates and satisfactory related analyses to ensure subjects can be safely dosed. In November 2019, we submitted a complete response to the partial clinical hold in order to be able to resume the MAD study and in December 2019, FDA lifted the partial clinical hold on the MAD study. In February 2020, we recommenced the MAD study and in August 2020 completed treatment and follow-

up. RGLS4326 was well-tolerated with no serious adverse events reported. Results show that plasma exposure is dose proportional.

In October 2020, we commenced dosing in a Phase 1b adaptive design, open-label, short-term, multiple dose study in patients with ADPKD. The study will enroll up to three cohorts of patients with ADPKD to evaluate safety, PK, and changes in levels of polycystin 1 (PC1) and polycystin 2 (PC2). Patients with ADPKD, due to the mutation in the polycystic kidney gene, have been reported to have low levels of PC1 and PC2, the proteins encoded by the PKD1 and PKD2 genes, respectively. This study is designed to evaluate whether different dose levels of RGLS4326 can increase levels of PC1 and PC2, in ADPKD patients. The first cohort enrolled nine patients who will receive RGLS4326 every two weeks over a six week period. We anticipate availability of results from the first cohort in the second quarter of 2021. Additional non-clinical studies initiated last year in mice and non-human primates to further characterize the PK properties of RGLS4326 have also been recently completed. The RGLS4326 IND is currently on a partial clinical hold for treatment of extended duration beyond the current Phase 1b study until the second set of requirements outlined by FDA have been satisfactorily addressed. Information from the Phase 1 clinical studies, together with information from the recently completed additional nonclinical studies, will be used to address the second set of requirements to support studies of extended duration. In July 2020, the FDA granted orphan drug designation to RGLS4326 for the treatment of ADPKD.

Preclinical Pipeline

A major focus of our preclinical research has historically targeted dysregulated *micro*RNAs implicated in diseases of high unmet medical need where we know we can effectively deliver to the target tissue or organ, such as the liver and kidney. We also have early discovery programs investigating additional *micro*RNA targets for infectious diseases, immunology and indications for which there is *micro*RNA dysregulation or in disease settings where the host *micro*RNAs are essential for the replication and/or survival of the pathogen.

We currently have multiple programs in various stages of preclinical development.

Glioblastoma multiforme program: In January 2019, we announced RGLS5579 as a clinical candidate in our glioblastoma multiforme (“GBM”) program. RGLS5579, which targets *micro*RNA-10b, demonstrated statistically significant improvements in survival as both a monotherapy as well as in combination with temozolamide ("TMZ") in an orthotopic GBM animal model. In combination with TMZ, the addition of a single dose of anti-mir-10b, delivered intracranially, led to a more than two-fold improvement in survival compared to TMZ alone. These, and additional survival data on RGLS5579, were presented in November 2018 at the Society for Neuro-Oncology Meeting. We plan to seek a partner to further advance development of RGLS5579.

Hepatitis B virus program: We have determined that advancing our preclinical programs targeting the Hepatitis B virus ("HBV") represents an attractive opportunity in our pipeline for investment, affecting an estimated 250 million people worldwide. We have identified several microRNA targets that serve as host factors for the virus. Our lead compound directed to one of the host microRNAs has demonstrated sub-nanomolar potency against HBV DNA replication and more than 95% reduction in Hepatitis B surface antigen in *in vitro* studies. Additionally, we have demonstrated reduction of both HBV DNA and surface antigen in an in vivo efficacy model. We believe that targeting a host factor in the liver represents a unique mechanism of action for treatment of the virus compared to other programs in development and holds the potential for achieving a functional cure. We are currently optimizing our development candidate for HBV.

Non-Alcoholic Steatohepatitis program: Across multiple animal models of non-alcoholic steatohepatitis ("NASH"), our lead candidate has demonstrated improvement in key endpoints, including NAFLD Activity Score (NAS), liver transaminases, hyperglycemia, and disease-related gene expression. In the diet-induced NASH mouse model (Amylin model) after two to four weekly doses, early onset of improvement across multiple disease parameters including liver triglycerides and blood levels of transaminases was observed. After nine weeks of treatment, there was evidence of sustained benefit with significant improvement of liver fibrosis and hyperglycemia compared to control-treated animals. We believe that targeting dysregulated *micro*RNA in a complex disease like NASH may offer a unique mechanism of action from other programs in development. We are seeking a partner to further advance its development.

Cell Therapies program: Cell therapies have been approved to treat a variety of hematological malignancies. Targeting solid tumors, however, has proven challenging for cell therapies due to various factors including the immune-suppressive effect of the tumor microenvironment ("TME"). We believe that ex vivo modulation of microRNA may enable cell therapy approaches to overcome the effects of the TME and address other challenges faced by cell therapies. We have demonstrated that targeting microRNA ex vivo can improve certain characteristics of engineered cells including improved in vitro expansion, effector function, cytokine production, as well as resistance to exhaustion induced by tonic signaling. We are pursuing multiple applications of microRNA technology in a variety of cell therapies.

Our *micro*RNA product platform

We believe we are the leading company in the field of *micro*RNA therapeutics and are uniquely positioned to leverage oligonucleotide technologies developed by us and our founding companies.

We view the following as providing a competitive advantage for our *micro*RNA product platform:

- a mature platform selectively producing multiple development candidates advancing to the clinic;
- scientific advisors who are pioneers in the *micro*RNA field;
- exclusive access to proven RNA therapeutic technologies through our founding companies, such as GalNac conjugation and the corresponding manufacturing rights licensed to us from Alnylam;
- a comprehensive *micro*RNA intellectual property estate with patents and patent applications covering compositions and therapeutic uses related to *micro*RNA and *micro*RNA drug products, as well as access to numerous patents and patent applications relating to RNA technologies, including patent and patent applications relating to chemical modification of oligonucleotides that are useful for *micro*RNA therapeutics;
- development expertise and financial resources provided by our strategic collaboration with Sanofi; and
- numerous academic collaborations that help us identify new *micro*RNA targets and support our early stage discovery efforts.

The disciplined approach we take for the discovery and development of *micro*RNA therapeutics is as important as the assets assembled to execute our plans and is based on the following four steps:

Step 1 - Evaluation of microRNA therapeutic opportunities

The initiation of our *micro*RNA discovery and development efforts is based on rigorous scientific and business criteria, including:

- existence of significant scientific evidence to support the role of a specific *micro*RNA in a disease;
- availability of predictive preclinical disease models to test our *micro*RNA development candidates;
- ability to effectively deliver anti-miRs or miR mimics to the diseased cells or tissues; and
- existence of a significant unmet medical need and commercial opportunity.

Step 2 - Identification of microRNA targets

We identify *micro*RNA targets through bioinformatic analysis of public and proprietary *micro*RNA expression profiling data sets from samples of diseased human tissues. The analysis of such data sets can immediately highlight a potential role for specific *micro*RNAs in the disease being studied. Further investigation of animal models that are predictive of human diseases in which those same *micro*RNAs are also dysregulated provides additional data to support a new program. We have applied this strategy successfully in our existing programs and we believe that this approach will continue to help us identify clinically relevant *micro*RNA targets.

Step 3 - Validation of microRNA targets

Our validation strategy is based on two distinct steps. First, using genetic tools, we determine whether up-regulation, or overproduction, of the *micro*RNA in healthy animals can create the specific disease state and inhibition of the *micro*RNA can lead to a therapeutic benefit. Second, using animal models predictive of human diseases, we determine whether pharmacological modulation of the up-regulated *micro*RNA target with our anti-miRs can also lead to a therapeutic benefit. This validation process enables us to prioritize *micro*RNA targets that appear to be key drivers of disease and not simply correlating markers.

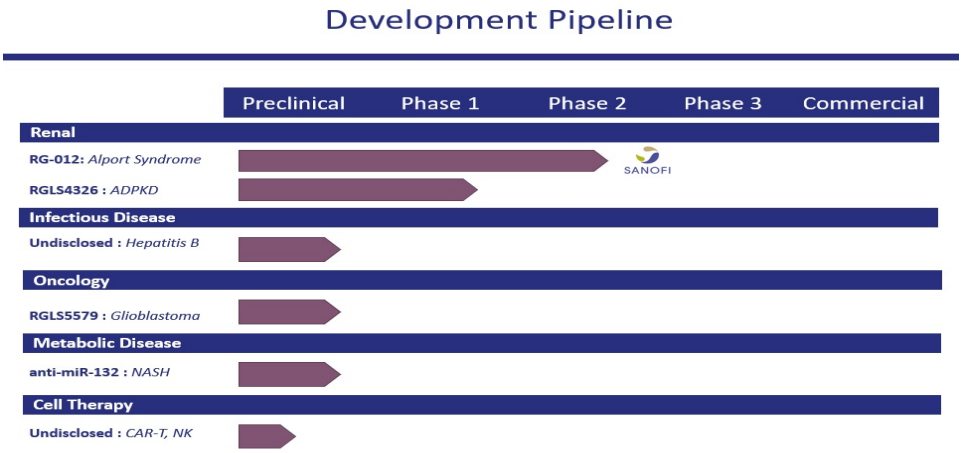
Step 4 - Optimization of microRNA development candidates

We have developed a proprietary process that allows us to rapidly generate an optimized development candidate. Unlike traditional drug classes, such as small molecules, in which thousands of compounds must be screened to identify prospective leads, the fact that anti-miRs are complementary to (thereby pairing with) the target *micro*RNA allows for a more efficient rational design process. The optimization process incorporates our extensive knowledge base around oligonucleotide chemistry and anti-miR design to efficiently synthesize a starting pool of rationally designed anti-miRs to be evaluated in a series of proven assays and models. We are able to enhance our anti-miRs for distribution in certain tissues, such as the liver and kidney, where the specific *micro*RNA target is causing disease.

Our development candidates

We are developing single-stranded oligonucleotides, which are chemically synthesized chains of nucleotides that are complementary to (thereby pairing with) the target *micro*RNA. We incorporate proprietary chemical modifications to enhance drug properties such as potency, stability and tissue distribution. We refer to these chemically modified oligonucleotides as anti-miRs. Each anti-miR is designed to bind with and inhibit a specific *micro*RNA target that is up-regulated in a cell and that is involved in the disease state. In binding to the *micro*RNA, anti-miRs correct the dysregulation and return diseased cells to their healthy state.

We have identified and validated several *micro*RNA targets across a number of disease categories and are working independently and with our strategic collaboration partner to optimize anti-miR development candidates. We intend to pursue a balanced approach between product candidates that we develop ourselves and those that we develop with partners. We intend to focus our own resources on proprietary product opportunities in therapeutic areas where development and commercialization activities are appropriate for our size and financial resources. In therapeutic areas where costs are more significant, development timelines are longer or markets are too large for our capabilities, we may seek to secure partners with requisite expertise and resources.



Our strategy

The key elements of our strategy are to (i) build a meaningful clinical portfolio by advancing our current clinical programs and advancing our preclinical programs into clinical development; (ii) focus our resources on developing drugs for indications that represent significant unmet medical need and where the development and commercialization activities are appropriate for our size and financial resources; (iii) selectively form strategic collaborations to augment our expertise and accelerate development and commercialization; (iv) develop *micro*RNA biomarkers to support our therapeutic product candidates; and (v) maintain our scientific and intellectual leadership in the *micro*RNA field.

Strategic Collaboration

- In June 2010, we formed a strategic collaboration with Sanofi to discover and develop *micro*RNA therapeutics for fibrotic diseases. In July 2012, we expanded the collaboration to include potential *micro*RNA therapeutics in oncology. The original research term for this strategic collaboration expired in June 2013, upon which we and Sanofi entered into an option agreement pursuant to which we granted Sanofi an exclusive right to negotiate the co-development and commercialization of certain of our unencumbered *micro*RNA programs, for which Sanofi paid us an upfront option fee of $2.5 million. In addition, Sanofi granted us an exclusive option to negotiate the co-development and commercialization of miR-21. In February 2014, we and Sanofi extended our strategic collaboration and Sanofi concurrently made a $10.0 million investment in our common stock. Under those terms of our extended collaboration, Sanofi had opt-in rights to our RG-012 clinical fibrosis program targeting miR-21 for the treatment of Alport

syndrome, our preclinical program targeting miR-21 for hepatocellular carcinoma ("HCC") and kidney fibrosis, and has opt-in rights to our preclinical programs targeting miR-221/222 for oncology indications.

In November 2018, we amended our collaboration and license agreement with Sanofi. Under the terms of the amendment, we granted Sanofi a worldwide, royalty-free, fee-bearing, exclusive license, with the right to sublicense, under our know-how and patents to develop and commercialize miR-21 compounds and products, including RG-012, for all indications, including Alport syndrome. Pursuant to the terms of the amended agreement, Sanofi agreed to assume all responsibilities and obligations for developing and commercializing each of our miR-21 programs, including RG-012, which is currently enrolling in Phase 2 for Alport syndrome, including our obligations regarding the administration and expense of clinical trials and all other costs, including in-license royalties and other in-license payments, related to our miR-21 programs. We have received approximately $16.8 million in upfront payments and payment for program-related materials and interim milestone payments. We are also eligible to receive a $25.0 million development milestone payment. In addition, Sanofi agreed to reimburse us for certain out-of-pocket expenses associated with transition activities and assume our upstream license royalty obligations.

- We will continue to be responsible for our preclinical program targeting miR-221/222 for oncology indications. If Sanofi chooses to exercise its option on the miR-221/222 program, Sanofi will reimburse us for a significant portion of our preclinical and clinical development costs and will also pay us an option exercise fee for any such program, provided that $1.25 million of the $2.5 million upfront option fee paid to us by Sanofi in connection with the June 2013 option agreement will be creditable against such option exercise fee. In addition, we will be eligible to receive clinical and regulatory milestone payments under this program and potentially commercial milestone payments. We will also be eligible to receive royalties on miR-221/222 products commercialized by Sanofi and have the right to co-promote these products.

- Under our collaboration and license agreement with Sanofi, we are eligible to receive up to approximately $193.8 million in aggregate milestone payments upon successful commercialization of *micro*RNA therapeutics, in addition to royalties on net sales for the miR-221/222 program. These payments include up to $63.8 million upon achievement of preclinical and clinical development milestones, up to $70.0 million upon achievement of regulatory milestones and up to $60.0 million upon achievement of commercialization milestones.

For additional information, see Note 5 to our financial statements under Item 8 of Part II of this Annual Report.

Our Intellectual Property and Technology Licenses

Intellectual property

We strive to protect and enhance the proprietary technologies that we believe are important to our business, including seeking and maintaining patents intended to cover our products and compositions, their methods of use and any other inventions that are important to the development of our business. We also rely on trade secrets to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection. Our objective is to continue to expand our intellectual property estate through our multiple layer approach in order to protect our *micro*RNA therapeutics and to maintain our leading position in the *micro*RNA therapeutics field.

We believe that we have a leading intellectual property position relating to the development and commercialization of *micro*RNA therapeutics, composed of:

- approximately 145 patents and patent applications that we own or have in-licensed from academic institutions related to *micro*RNA and *micro*RNA drug products; and
- numerous patents and patent applications exclusively licensed from our founding companies, Alnylam and Ionis, related to RNA technologies, including patent and patent applications relating to chemical modification of oligonucleotides that are useful for *micro*RNA therapeutics, including chemical modifications incorporated into our clinical candidates.

Our portfolio of exclusively and jointly owned patent and patent applications is currently composed of approximately 145 U.S. and foreign patents and patent applications with claims to compositions-of-matter or methods related to our *micro*RNA drug products and *micro*RNA product platform. Based on the patents and patents that may issue from pending applications within our portfolio, patent protection for our *micro*RNA drug products and their methods of use is currently expected to expire between 2024 and 2039.

Our founding companies, Alnylam and Ionis, each own or otherwise have rights to numerous patents and patent applications concerning oligonucleotide technologies and a substantial number of these patents and applications have been exclusively licensed to us for use in the *micro*RNA field. The technologies covered in these patents and applications include various chemical modifications that are applicable to *micro*RNA therapeutics. Due to patent expiration and strategic patent portfolio decisions, the total number licensed to us will fluctuate from year to year. Among the licensed patents or patent applications, those covering key chemical modifications for use in *micro*RNA drug products are currently expected to expire in 2023, 2027 and 2029.

The term of individual patents depends upon the legal term of the patents in the countries in which they are obtained. In most countries in which we file, the patent term is 20 years from the date of filing the non-provisional application. In the United States, a patent's term may be lengthened by patent term adjustment, which compensates a patentee for administrative delays by the U.S. Patent and Trademark Office ("U.S. PTO") in granting a patent, or may be shortened if a patent is terminally disclaimed over an earlier-filed patent.

The term of a patent that covers an FDA-approved drug may also be eligible for patent term extension, which permits patent term restoration of a U.S. patent as compensation for the patent term lost during the FDA regulatory review process. The Hatch-Waxman Act permits a patent term extension of up to five years beyond the expiration of the patent. The length of the patent term extension is related to the length of time the drug is under regulatory review. A patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval and only one patent applicable to an approved drug may be extended. Similar provisions are available in Europe and other foreign jurisdictions to extend the term of a patent that covers an approved drug. When possible, depending upon the length of clinical trials and other factors involved in the filing of a new drug application ("NDA") we expect to apply for patent term extensions for patents covering our *micro*RNA product candidates and their methods of use.

In some circumstances we rely, and may continue to rely, on trade secrets to protect our technology. However, trade secrets can be difficult to protect. We seek to protect our proprietary technology and processes, in part, by entering into confidentiality agreements with our employees, consultants, scientific advisors and contractors. We also seek to preserve the integrity and confidentiality of our data and trade secrets by maintaining physical security of our premises and physical and electronic security of our information technology systems.

Our Technology Licenses

Alnylam/Ionis

In September 2007, we entered into a license and collaboration agreement with Alnylam and Ionis, which we subsequently amended, restated and superseded in January 2009, and further amended in June 2010, October 2011 and August 2013. Under the agreement, we acquired an exclusive, royalty-bearing, worldwide license, with rights to sublicense, to patent rights owned or licensed by Alnylam and Ionis to develop, manufacture and commercialize products covered by the licensed patent rights for use in *micro*RNA compounds which are *micro*RNA antagonists and *micro*RNA therapeutics containing these compounds. In addition, we have certain rights to miR-mimics. Under the agreement, we granted to both Alnylam and Ionis a license to practice our intellectual property developed by us to the extent that it is useful specifically to Alnylam's RNAi programs or Ionis' single-stranded oligonucleotide programs, but not including *micro*RNA compounds or therapeutics that are the subject of our exclusive licenses from Alnylam and Ionis.

We are required to use commercially reasonable efforts to develop and commercialize licensed products under the agreement. We are required to notify Alnylam and Ionis when a program reaches development stage (defined as initiation of good laboratory practices ("GLP") toxicology studies and whether or not we intend to pursue the program. Under the agreement, both Alnylam and Ionis have an option to assume the development and commercialization of product candidates in a program that we do not pursue. If neither Alnylam nor Ionis exercises this option, we are required to use our best efforts to finalize a term sheet with a third party with respect to such program. In the event we are unable to complete a transaction with a third party, both Alnylam and Ionis have a second opt-in option.

If an election is made by either Alnylam or Ionis (but not both) to opt-in, such party will pay us a one-time fixed payment, the amount of which will depend on whether the first or the second opt-in option was exercised, with a higher amount due if the first opt-in option was exercised. Clinical and regulatory milestones are also payable to us in the event the opt-in election is exercised. Such milestones total $64.0 million in the aggregate if the election is made during the first opt-in period or $15.7 million in the aggregate if the election is made at the second opt-in period. Tiered royalties are payable to us as a percentage of net sales on all products commercialized by the opt-in party. These royalties range from the low to middle single digits depending upon the volume of sales. The opt-in party is also entitled to sublicense the development program to a third party. In such a case, we are also entitled to receive a percentage of the sublicense income received by the opt-in party. The

percentage payable depends upon the point at which the opt-in party sublicenses the program and ranges from the low end of the 10 to 20% range to the high end of the 40 to 50% range. The opt-in party is only required to pay the higher of the clinical and regulatory milestones or the sublicense income received in any calendar quarter. The opt-in party is also responsible for all third-party payments due under other agreements as a result of the development. In the event both Alnylam and Ionis elect to opt-in during either opt-in period, the parties have agreed to work together to amend the development plan to continue development of the project, including funding of such project and assignment of roles and responsibilities.

In the event we or one of our collaboration partners continues with the development of a program, each of Alnylam and Ionis are entitled to royalties as a percentage of net sales. For products that we independently commercialize, these royalties will be in the low single digits. For products commercialized by a third-party collaborator, the royalties will be either the same percentage of net sales as described above or, if the sublicense does not provide a specified level of royalties to us or upon our election, a percentage of the sublicense income received by us from the strategic collaboration partner and a modified royalty. The modified royalty would be based upon the lower of the single digit percentage discussed above or one third of the royalty received by us after payments made by us to third parties for development, manufacture and commercialization activities under other agreements. In addition, if we sublicense rights to a collaborator, we will be required to pay to each of Alnylam and Ionis a percentage of our sublicense income in the mid-single digits. We are also responsible for payments due to third parties under other agreements as a result of our development activities, including payments owed by Alnylam and/or Ionis under their agreements.

Under the October 2011 amendment, Alnylam and Ionis granted us the right to research *micro*RNA mimics under the licensed intellectual property of Alnylam and Ionis. In the event we develop a miR-mimic, we must first obtain approval from Alnylam and/or Ionis, as applicable, and such approval is subject to the consent of applicable third parties, if any. No additional consideration will be owed by us to Alnylam or Ionis for granting approval. We have the right to sublicense our research rights. We granted to both Alnylam and Ionis a fully paid up, worldwide and exclusive license to any intellectual property developed by us and useful to their research programs and which are not *micro*RNA antagonists or approved miR-mimics.

In August 2013, we entered into an amendment to the Amended and Restated License and Collaboration Agreement with Ionis and Alnylam dated January 1, 2009, as amended in June 2010 and October 2011 (as amended, the “Amendment”). Under the terms of the Amendment, the parties agreed to our use of certain Alnylam-controlled intellectual property concerning the use and manufacture of GalNAc conjugates (“GalNAc Process Technology”) on a non-exclusive basis. We will generally not be permitted to sublicense or otherwise transfer the GalNAc Process Technology and other Alnylam licensed intellectual property rights relating to GalNAc conjugate technology without the prior written consent of Alnylam, subject to certain limited exceptions for sublicenses to third party collaboration partners. There were no financial terms related to this Amendment. Amounts included in our operating expenses as a result of costs incurred from services provided under the Agreement or out-of-pocket expenses were zero for the years ended December 31, 2020 and 2019.

In February 2015, we entered into a letter agreement with Alnylam Pharmaceuticals, Inc. ("Alnylam") pursuant to which we and Alnylam agreed to the financial terms for certain technology acquired by Alnylam within the licensed patent rights under our Amended and Restated License and Collaboration Agreement (the “Additional Patent Rights”) with Alnylam and Ionis. In addition to any royalties payable by us to Alnylam pursuant to the terms of the Amended and Restated License and Collaboration Agreement, we agreed to pay Alnylam an additional low single-digit royalty on net sales of certain products utilizing the Additional Patent Rights, with the exact royalty percentage payable being dependent on the total amount of net sales during the calendar year. We also agreed to pay Alnylam milestone payments on certain products utilizing the additional patent rights upon the achievement of certain regulatory milestone events. There was no activity under this agreement for the year ended December 31, 2020.

The agreement expires on the earlier of the cessation of development of the potential royalty-bearing products prior to the commercial sale of any such products anywhere in the world or following the first commercial sale of such products, the expiration of royalty obligations determined on a country-by-country and product-by-product basis.

Manufacturing

We contract with third parties to manufacture our compounds and intend to continue to do so in the future. We do not own or operate, nor do we expect to own or operate, facilities for product manufacturing, storage and distribution, or testing. We have personnel with extensive technical, manufacturing, analytical and quality experience and strong project management discipline to oversee contract manufacturing and testing activities, and to compile manufacturing and quality information for our regulatory submissions.

Manufacturing is subject to extensive regulations that impose various procedural and documentation requirements, which govern record keeping, manufacturing processes and controls, personnel, quality control and quality assurance, among others.

Our systems and contractors are required to be in compliance with these regulations, and this is assessed regularly through monitoring of performance and a formal audit program.

Competition

The biotechnology and pharmaceutical industries are characterized by intense and rapidly changing competition to develop new technologies and proprietary products. While we believe that our intellectual property estate and scientific expertise in the *micro*RNA field provide us with competitive advantages, we face potential competition from many different sources, including larger and better-funded pharmaceutical companies. Any products that we may commercialize will have to compete with existing and new therapies that may become available in the future. In addition, we expect that for each disease category for which we develop and apply our *micro*RNA therapeutics, there are other biotechnology companies that will compete against us by applying marketed products and development programs using technology other than *micro*RNA therapeutics. The key competitive factors that will affect the success of any of our development candidates, if commercialized, are likely to be their efficacy, safety, convenience, price and the availability of reimbursement from government and other third-party payors relative to such competing technologies. Our commercial opportunity could be reduced or eliminated if our competitors have products which are better in one or more of these categories.

Government Regulation and Product Approval

Government authorities in the United States, at the federal, state and local level, and other countries extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, post-approval monitoring and reporting, marketing and export and import of products such as those we are developing. Any product candidate that we develop must be approved by the FDA before it may be legally marketed in the United States and by the appropriate foreign regulatory agency before it may be legally marketed in foreign countries.

U.S. drug development process

In the United States, the FDA regulates drugs under the Federal Food, Drug and Cosmetic Act ("FDCA") and implementing regulations. Drugs are also subject to other federal, state and local statutes and regulations. 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. 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 to administrative or judicial civil or criminal sanctions. FDA sanctions could include refusal to approve pending applications, withdrawal of an approval, clinical hold, warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, debarment, restitution, disgorgement or civil or criminal penalties. Any agency or judicial enforcement action could have a material adverse effect on us. The process required by the FDA before a drug may be marketed in the United States generally involves the following:

- completion of nonclinical laboratory tests, animal studies and formulation studies according to GLP or other applicable regulations;
- submission to the FDA of an application for an IND, 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 current good clinical practices ("GCPs") to establish the safety and efficacy of the proposed drug for its intended use;
- submission to the FDA of an NDA for a new drug;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities where the drug is produced to assess compliance with the FDA's current good manufacturing practice standards ("cGMP") to assure that the facilities, methods and controls are adequate to preserve the drug's identity, strength, quality and purity;
- potential FDA audit of the nonclinical and clinical trial sites that generated the data in support of the NDA; and
- FDA review and approval of the NDA.

The lengthy process of seeking required approvals and the continuing need for compliance with applicable statutes and regulations require the expenditure of substantial resources and approvals are inherently uncertain.

Before testing any compounds with potential therapeutic value in humans, the drug candidate enters the preclinical study stage. 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 drug candidate. The conduct of the

preclinical tests must comply with federal regulations and requirements including GLP. The 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. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA imposes a clinical hold within that 30-day time period. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. The FDA may also impose clinical holds on a drug candidate at any time before or during clinical trials due to safety concerns or non-compliance. Accordingly, we cannot be sure that submission of an IND will result in the FDA allowing clinical trials to begin, or that, once begun, issues will not arise that suspend or terminate such trial.

Clinical trials involve the administration of the drug candidate to healthy volunteers or patients under the supervision of qualified investigators, generally physicians not employed by or under the trial sponsor's direct 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. Each protocol must be submitted to the FDA as part of the IND. Clinical trials must be conducted in accordance with the FDA's regulations comprising the good clinical practices requirements. 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 trial 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 provide oversight for the clinical trial until completed.

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

- Phase 1. The drug is initially introduced into healthy human subjects and tested for safety, dosage tolerance, absorption, metabolism, distribution and excretion. 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 may be conducted in patients.
- Phase 2. The drug 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 and safety in an expanded patient population at geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk/benefit ratio of the product and provide an adequate basis for product labeling. Generally, two adequate and well-controlled Phase 3 clinical trials are required by the FDA for approval of an NDA.

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 experience from the treatment of patients in the intended therapeutic indication.

Annual progress reports detailing the results of the clinical trials must be submitted to the FDA and written IND safety reports must be promptly submitted to the FDA and the investigators for serious and unexpected adverse events or any finding from tests in laboratory animals that suggests a significant risk for human subjects. 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 drug has been associated with unexpected serious harm to patients.

Concurrently with clinical trials, companies usually complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the drug as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the drug candidate and, among other things, must develop methods for testing the identity, strength, quality and purity of the final drug. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the drug candidate does not undergo unacceptable deterioration over its shelf life.

U.S. review and approval processes

The results of product development, nonclinical studies and clinical trials, along with descriptions of the manufacturing process, analytical tests conducted on the chemistry of the drug, proposed labeling and other relevant information are submitted

to the FDA as part of an NDA requesting approval to market the product. The submission of an NDA is subject to the payment of substantial user fees; a waiver of such fees may be obtained under certain limited circumstances.

In addition, under the Pediatric Research Equity Act ("PREA"), an NDA or supplement to an NDA must contain data to assess the safety and effectiveness of the drug for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA may grant deferrals for submission of data or full or partial waivers. Unless otherwise required by regulation, PREA does not apply to any drug for an indication for which orphan designation has been granted.

The FDA reviews all NDAs submitted to determine if they are substantially complete before it accepts them for filing. If the FDA determines that an NDA is incomplete or is found to be non-navigable, the filing may be refused and must be re-submitted for consideration. Once the submission is accepted for filing, the FDA begins an in-depth review of the NDA. Under the goals and policies agreed to by the FDA under the Prescription Drug User Fee Act ("PDUFA"), the FDA has 10 months from acceptance of filing in which to complete its initial review of a standard NDA and respond to the applicant, and six months from acceptance of filing for a priority NDA. The FDA does not always meet its PDUFA goal dates. The review process and the PDUFA goal date may be extended by three months or longer if the FDA requests or the NDA sponsor otherwise provides additional information or clarification regarding information already provided in the submission before the PDUFA goal date.

After the NDA submission is accepted for filing, the FDA reviews the NDA to determine, among other things, whether the proposed product is safe and effective for its intended use, and whether the product is being manufactured in accordance with cGMP to assure and preserve the product's identity, strength, quality and purity. The FDA may refer applications for novel drug or biological products or drug or biological products which 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 drug approval process, the FDA also will determine whether a risk evaluation and mitigation strategy ("REMS") is necessary to assure the safe use of the drug. If the FDA concludes a REMS is needed, the sponsor of the NDA must submit a proposed REMS; the FDA will not approve the NDA without a REMS, if required.

Before approving an NDA, 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 requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving an NDA, the FDA will typically inspect the sponsor and one or more clinical sites to assure that the clinical trials were conducted in compliance with IND study requirements. If the FDA determines that the application, manufacturing process or manufacturing facilities are not acceptable it will outline the deficiencies in the submission and often will request additional testing or information.

The NDA review and approval process is lengthy and difficult and the FDA may refuse to approve an NDA if the applicable regulatory criteria are not satisfied or may require additional clinical data or other data and information. Even if such data and information is submitted, the FDA may ultimately decide that the NDA does not satisfy the criteria for approval. Data obtained from clinical trials are not always conclusive and the FDA may interpret data differently than we interpret the same data. The FDA will issue a complete response letter if the agency decides not to approve the NDA. The complete response letter usually describes all of the specific deficiencies in the NDA identified by the FDA. The deficiencies identified may be minor, for example, requiring labeling changes, or major, for example, requiring additional clinical trials. Additionally, 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 submit new information, addressing all of the deficiencies identified in the letter, or withdraw the application.

If a product receives regulatory approval, the approval may be significantly limited to specific diseases and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product. Further, the FDA may require that certain contraindications, warnings or precautions be included in the product labeling. In addition, the FDA may require post marketing clinical trials, sometimes referred to as Phase 4 clinical trials, which are designed to further assess a drug safety and effectiveness and may require testing and surveillance programs to monitor the safety of approved products that have been commercialized.

Orphan drug designation

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biological product intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the United

States, or more than 200,000 individuals in the United States and for which there is no reasonable expectation that the cost of developing and making a drug or biological product available in the United States for this type of disease or condition will be recovered from sales of the product. Orphan product designation must be requested before submitting an NDA. After the FDA grants orphan product designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. Orphan product designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

If a product that has orphan designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to orphan product exclusivity, which means that the FDA may not approve any other applications to market the same drug or biological product for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan exclusivity. 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. 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 or if our drug 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. Orphan drug status has similar but not identical benefits in the European Union.

Expedited development and review programs

The FDA has several regulatory pathways for expedited development and/or review of products intended to treat serious conditions. These pathways are Fast Track designation, Breakthrough Therapy designation, accelerated approval, and priority review. These programs do not change the standards for approval but may expedite the development or approval process. Products may meet the standards for consideration under one or more of these pathways.

The Fast Track program is intended to expedite development or facilitate the process for reviewing new drugs and biological products that meet certain criteria. Specifically, new drugs and biological products are eligible for Fast Track designation if they are intended to treat a serious or life-threatening condition and demonstrate the potential to address unmet medical needs for the condition. Fast Track designation applies to the combination of the product and the specific indication for which it is being studied. In addition to more frequent meetings with the FDA to discuss the drug's development plan and ensure collection of appropriate data needed to support drug approval, the FDA will consider for review sections of the NDA on a rolling basis as sections are completed, based on an agreed schedule, and the sponsor pays any required user fees upon submission of the first section of the NDA.

Breakthrough Therapy designation is a process designed to expedite the development and review of drugs that are intended to treat a serious condition and where preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over available therapy on or more clinically significant endpoint(s). A drug that receives Breakthrough Therapy designation from the FDA is eligible for all Fast Track designation features, plus intensive guidance on an efficient drug development program beginning as early as Phase 1 and organizational commitment involving senior managers.

Products may be eligible for accelerated approval. Drug or biological products studied for their safety and effectiveness in treating serious or life-threatening illnesses and that provide meaningful therapeutic benefit over existing treatments may receive accelerated approval, which means that they may be approved on the basis of adequate and well-controlled clinical trials establishing that the product has an effect on a surrogate endpoint that is reasonably likely to predict a clinical benefit, or on the basis of an effect on a clinical endpoint other than survival or irreversible morbidity. As a condition of approval, the FDA may require that a sponsor of a drug or biological product receiving accelerated approval perform adequate and well-controlled post-marketing clinical trials. 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. Accelerated Approval can be granted with restrictions to the marketing and distribution of the product, and the FDA can withdraw marketing approval if the required post-marketing studies fail to show a clinical benefit or if the Sponsor fails to conduct required post-marketing studies.

Any product is eligible for priority review if it has the potential to provide safe and effective therapy where no satisfactory alternative therapy exists or a significant improvement in the treatment, diagnosis or prevention of a disease compared to marketed products. The FDA will attempt to direct additional resources to the evaluation of an application for a new drug or biological product designated for priority review in an effort to facilitate the review.

Post-approval requirements

Any drug products for which we or our strategic collaboration partners receive FDA approvals are subject to continuing regulation by the FDA, including, among other things, record-keeping requirements, reporting of adverse experiences with the product, providing the FDA with updated safety and efficacy information, product sampling and distribution requirements, complying with certain electronic records and signature requirements and complying with FDA promotion and advertising requirements, which include, among others, standards for direct-to-consumer advertising, promoting drugs for uses or in patient populations that are not described in the drug's approved labeling (known as "off-label use"), industry-sponsored scientific and educational activities, and promotional activities involving the internet. Failure to comply with FDA requirements can have negative consequences, including adverse publicity, enforcement letters from the FDA, mandated corrective advertising or communications with doctors, and civil or criminal penalties. Although physicians may prescribe legally available drugs for off-label uses, manufacturers may not market or promote such off-label uses.

We rely, and expect to continue to rely, on third parties for the production of clinical and commercial quantities of any products that we may commercialize. Our strategic collaboration partners may also utilize third parties for some or all of a product we are developing with such strategic collaboration partner. Manufacturers of our products are required to comply with applicable FDA manufacturing requirements contained in the FDA's cGMP regulations. cGMP regulations require among other things, quality control and quality assurance as well as the corresponding maintenance of records and documentation. Drug manufacturers and other entities involved in the manufacture and distribution of approved drugs are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP and other laws. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance. Discovery of problems with a product after approval may result in restrictions on a product, manufacturer, or holder of an approved NDA, including withdrawal of the product from the market. In addition, changes to the manufacturing process 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.

The FDA also may require post-marketing testing, known as Phase 4 testing, risk evaluation and mitigation strategies and surveillance to monitor the effects of an approved product or place conditions on an approval that could restrict the distribution or use of the product.

U.S. patent term restoration and marketing exclusivity

Depending upon the timing, duration and specifics of the FDA approval of the use of our drug candidates, some of our United States patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, commonly referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent restoration term of up to five years as compensation for patent term lost during product development and the FDA regulatory review process. However, patent term restoration cannot extend the remaining term of a patent beyond a total of 14 years from the product's approval date. The patent term restoration period is generally one-half the time between the effective date of an IND and the submission date of an NDA plus the time between the submission date of an NDA and the approval of that application. Only one patent applicable to an approved drug is eligible for the extension and the application for the extension must be submitted prior to the expiration of the patent. The United States Patent and Trademark Office, in consultation with the FDA, reviews and approves the application for any patent term extension or restoration. In the future, we may intend to apply for restoration of patent term for one of our currently owned or licensed patents to add patent life beyond its current expiration date, depending on the expected length of the clinical trials and other factors involved in the filing of the relevant NDA.

Market exclusivity provisions under the FDCA can also delay the submission or the approval of certain applications of other companies seeking to reference another company's NDA. The FDCA provides a five-year period of non-patent marketing exclusivity within the United States to the first applicant to obtain approval of an NDA for a new chemical entity. A drug is a new chemical entity if the FDA has not previously approved any other new drug containing the same active moiety, which is the molecule or ion responsible for the action of the drug substance. During the exclusivity period, the FDA may not accept for review an abbreviated new drug application ("ANDA") or a 505(b)(2) NDA submitted by another company for another version of such drug where the applicant does not own or have a legal right of reference to all the data required for approval. However, an application may be submitted after four years if it contains a certification of patent invalidity or non-infringement to one of the patents listed with the FDA by the innovator NDA holder. The FDCA also provides three years of marketing exclusivity for an NDA, or supplement to an existing NDA if new clinical investigations, other than bioavailability studies, that were conducted or sponsored by the applicant are deemed by the FDA to be essential to the approval of the application, for example new indications, dosages or strengths of an existing drug. This three-year exclusivity covers only the conditions associated with the new clinical investigations and does not prohibit the FDA from approving ANDAs for drugs containing the original active

agent. Five-year and three-year exclusivity will not delay the submission or approval of a full NDA. However, an applicant submitting a full NDA would be required to conduct or obtain a right of reference to all of the preclinical studies and adequate and well-controlled clinical trials necessary to demonstrate safety and effectiveness. Pediatric exclusivity is another type of regulatory market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods and patent terms. This six-month exclusivity, which runs from the end of other exclusivity protection or patent term, may be granted based on the voluntary completion of a pediatric trial in accordance with an FDA-issued “Written Request” for such a trial.

U.S. Foreign Corrupt Practices Act

The U.S. Foreign Corrupt Practices Act ("FCPA") prohibits certain individuals and entities, including us, from promising, paying, offering to pay, or authorizing the payment of anything of value to any foreign government official, directly or indirectly, to obtain or retain business or an improper advantage. The U.S. Department of Justice and the U.S. Securities and Exchange Commission ("SEC") have increased their enforcement efforts with respect to the FCPA. Violations of the FCPA may result in large civil and criminal penalties and could result in an adverse effect on a company’s reputation, operations, and financial condition. A company may also face collateral consequences such as debarment and the loss of export privileges.

Federal and state healthcare laws and regulations

In addition to FDA restrictions on marketing of pharmaceutical products, several other types of state and federal healthcare laws and regulations have been applied to restrict certain business practices in the biopharmaceutical industry in recent years. These laws include the following:

The federal Anti-Kickback Statute prohibits, among other things, knowingly and willfully offering, paying, soliciting, or receiving remuneration to induce or in return for purchasing, leasing, ordering, or arranging for the purchase, lease, or order of any healthcare item or service reimbursable under Medicare, Medicaid, or other federally financed healthcare programs. The term “remuneration” has been broadly interpreted to include anything of value, including for example, gifts, discounts, the furnishing of supplies or equipment, credit arrangements, payments of cash, waivers of payment, ownership interests and providing anything at less than its fair market value. The Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on one hand and prescribers, purchasers, formulary managers and other individuals and entities on the other. Although there are a number of statutory exemptions and regulatory safe harbors protecting certain common activities from prosecution, the exceptions and safe harbors are drawn narrowly, and our practices may not in all cases meet all of the criteria for statutory exceptions or regulatory safe harbor protection. Practices that involve remuneration that may be alleged to be intended to induce prescribing, purchases, or recommendations may be subject to scrutiny if they do not qualify for an exception or safe harbor. Several courts have interpreted the statute’s intent requirement to mean that if any one purpose of an arrangement involving remuneration is to induce referrals of federal healthcare covered business, the statute has been violated. The reach of the Anti-Kickback Statute was also broadened by the Patient Protection and Affordable Health Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the "ACA"), which, among other things, amended the intent requirement of the federal Anti-Kickback Statute. Pursuant to the statutory amendment, a person or entity no longer needs to have actual knowledge of this statute or specific intent to violate it in order to have committed a violation. In addition, the ACA provides that the government may assert 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 civil False Claims Act (discussed below) or the civil monetary penalties statute, which imposes penalties against any person who is determined to have presented or caused to be presented a claim to a federal health program that the person knows or should know is for an item or service that was not provided as claimed or is false or fraudulent.

Federal false claims laws, including the federal civil False Claims Act, prohibit any person from knowingly presenting, or causing to be presented, a false claim for payment to the federal government. Pharmaceutical and other healthcare companies have been prosecuted under these laws for allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. Companies have been prosecuted for causing false claims to be submitted because of the companies’ marketing of the product for unapproved, and thus non-reimbursable, uses.

Many states also have statutes or regulations similar to the federal Anti-Kickback Statute and civil False Claims Act, which state laws apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payor. Also, the federal Health Insurance Portability and Accountability Act of 1996 ("HIPAA") created additional federal criminal statutes that prohibit, among other things, knowingly and willfully executing a scheme to defraud any healthcare benefit program, including private third-party payors and knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services.

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. Such a challenge could have a material adverse effect on our business, financial condition and results of operations.

In addition, we may be subject to data privacy and security regulation by both the federal government and the states in which we conduct our business. HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act ("HITECH") and their implementing regulations, impose on "covered entities," including certain healthcare providers, healthcare clearinghouses, and health plans, as well as their respective "business associates" that receive or obtain protected health information in connection with providing a service on behalf of a covered entity, relating to the privacy, security, and transmission of individually identifiable health information. HITECH increased the civil and criminal penalties that may be imposed against covered entities, business associates and possibly other persons, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorney's fees and costs associated with pursuing federal civil actions. In addition, state laws govern the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts. The recently adopted European General Data Protection Regulation ("GDPR") contains new provisions specifically directed at the processing of health information, higher sanctions and extra-territoriality measures that are intended to bring non-EU companies under the data security and privacy legal framework specified in the regulation. We anticipate that over time we may expand our business operations to include operations in the EU, including potentially conducting preclinical and clinical trials. With such expansion, we would be subject to increased governmental regulation in the EU countries in which we might operate, including the GDPR.

Additionally, California recently enacted legislation that has been dubbed the first "GDPR-like" law in the United States. Known as the California Consumer Privacy Act ("CCPA"), it creates new individual privacy rights for consumers (as that word is broadly defined in the law) and places increased privacy and security obligations on entities handling personal data of consumers or households. The CCPA, which went into effect on January 1, 2020, requires covered companies to provide new disclosures to California consumers, provides such consumers new ways to opt-out of certain sales of personal information, and allow for a new cause of action for data breaches. The CCPA may impact (possibly significantly) our business activities and exemplifies the vulnerability of our business to not only cyber threats but also the evolving regulatory environment related to personal data and protected health information.

Further, the federal Physician Payments Sunshine Act, enacted as part of the ACA, requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to report annually to the Centers for Medicare & Medicaid Services ("CMS") information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), and teaching hospitals. Applicable manufacturers and applicable group purchasing organizations must also report annually to CMS ownership and investment interests held by the physicians and their immediate family members. Beginning in 2022, applicable manufacturers also will be required to report such information regarding its payments and other transfers of value to physician assistants, nurse practitioners, clinical nurse specialists, anesthesiologist assistants, certified registered nurse anesthetists and certified nurse midwives during the previous year.

Other state laws and regulations may also apply, such as those that: require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government; require the reporting of information related to drug pricing and/or require the report of information related to transfers of value to healthcare providers or marketing expenditures. Certain state and local laws also require the registration of pharmaceutical sales representatives.

If our operations are found to be in violation of any of the federal and state healthcare laws or regulations described above or any other governmental regulations that apply to us, we may be subject to penalties, including criminal and significant civil monetary penalties, damages, fines, imprisonment, exclusion from government programs, disgorgement, additional reporting requirements and/or oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws, contractual damages, reputational harm, diminished profits and future earnings, and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations. To the extent that any of our product candidates are ultimately 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 transfers of value to healthcare professionals.

Health Reform

In the United States and foreign jurisdictions, there have been a number of legislative and regulatory changes to the healthcare system that could affect our future results of operations. In particular, there have been and continue to be a number of initiatives at the United States federal and state levels that seek to reduce healthcare costs.

For example, the ACA includes measures 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 and biotechnology industry are the following:

- implemented an annual, nondeductible fee on any entity that manufactures or imports certain branded prescription drugs and biologic agents, apportioned among these entities according to their market share in certain government healthcare programs;
- increased the rebates a manufacturer must pay under the Medicaid Drug Rebate Program to 23.1% and 13% of the average manufacturer price for branded and generic drugs, respectively;
- created a new Medicare Part D coverage gap discount program, in which manufacturers must now agree to offer 70% point-of-sale discounts to negotiated prices of applicable 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;
- extended manufacturers' Medicaid rebate liability to covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations;
- expanded eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals and by adding new mandatory eligibility categories for certain individuals with income at or below 133% of the Federal Poverty Level, thereby potentially increasing manufacturers' Medicaid rebate liability;
- expanded the entities eligible for discounts under the Public Health Service pharmaceutical pricing program;
- implemented a requirement to annually report drug samples that manufacturers and distributors provide to physicians;
- created a licensure framework for follow-on biologic products;
- created a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research; and
- established a Center for Medicare & Medicaid Innovation at CMS to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending.

There have been judicial and Congressional challenges to certain aspects of the ACA, as well as efforts by the Trump administration to repeal or replace certain aspects of the ACA. For example, President Trump signed several Executive Orders and other directives designed to delay the implementation of certain provisions of the ACA or otherwise circumvent some of the requirements for health insurance mandated by the ACA. Congress has also considered legislation that would repeal or repeal and replace all or part of the ACA. While Congress has not passed comprehensive repeal legislation, bills affecting the implementation of certain taxes under the ACA have been signed into law. Legislation enacted in 2017, informally titled the Tax Cuts and Jobs Act ("Tax Act"), includes a provision which repealed, effective January 1, 2019, 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 that is commonly referred to as the "individual mandate". In addition, the 2020 federal spending package permanently eliminated, effective January 1, 2020, the ACA-mandated "Cadillac" tax on high-cost employer-sponsored health coverage and medical device tax and, effective January 1, 2021, also eliminated the health insurer tax. On December 14, 2018, a Texas U.S. District Court Judge ruled that the ACA is unconstitutional in its entirety because the "individual mandate" was repealed by Congress as part of the Tax Act. Additionally, on December 18, 2019, the U.S. Court of Appeals for the 5th Circuit upheld the District Court ruling that the individual mandate was unconstitutional and remanded the case back to the District Court to determine whether the remaining provisions of the ACA are invalid as well. The U.S. Supreme Court is currently reviewing this case, but it is unknown when a decision will be reached. Although the U.S. Supreme Court has yet ruled on the constitutionality of the ACA, on January 28, 2021, President Biden issued an executive order to initiate a special enrollment period from February 15, 2021 through May 15, 2021 for purposes of obtaining health insurance coverage through the ACA marketplace. The executive order also instructs certain governmental agencies to review and reconsider their existing policies and rules that limit access to healthcare, including among others, reexamining Medicaid demonstration projects and waiver programs that include work requirements, and policies that create unnecessary barriers to obtaining access to health insurance coverage through Medicaid or the ACA. It is unclear how the Supreme Court rule, other such litigation, and healthcare reform measures of the Biden administration will impact the ACA.

Other legislative changes have been proposed and adopted since the ACA was enacted. These changes include aggregate reductions to Medicare payments to providers of 2% per fiscal year pursuant to the Budget Control Act of 2011, which began in

2013 and, due to subsequent legislative amendments to the statute, will remain in effect through 2030 unless additional Congressional action is taken. However, COVID-19 relief support legislation suspended the 2% Medicare sequester from May 1, 2020 through March 31, 2021. The American Taxpayer Relief Act of 2012, among other things, further reduced Medicare payments to several providers, including hospitals and cancer treatment centers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

Further, there has been heightened governmental scrutiny in the United States of pharmaceutical pricing practices in light of the rising cost of prescription drugs and biologics. Such scrutiny has resulted in several recent Congressional inquiries and federal and state legislative activity designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for products. For example, at the federal level, the Trump administration used several means to propose or implement drug pricing reform, including through federal budget proposals, executive orders and policy initiatives. On July 24, 2020 and September 13, 2020, the Trump administration announced several executive orders related to prescription drug pricing that attempt to implement several of the administration's proposals. The FDA also released a final rule, effective November 30, 2020, implementing a portion of the importation executive order providing guidance for states to build and submit importation plans for drugs from Canada. Further, on November 20, 2020, HHS finalized a regulation removing safe harbor protection for price reductions from pharmaceutical manufacturers to plan sponsors under Part D, either directly or through pharmacy benefit managers, unless the price reduction is required by law. The implementation of the rule has been delayed by the Biden administration from January 1, 2022 to January 1, 2023 in response to ongoing litigation. The rule also creates a new safe harbor for price reductions reflected at the point-of-sale, as well as a new safe harbor for certain fixed fee arrangements between pharmacy benefit managers and manufacturers, the implementation of which have also been delayed pending review by the Biden administration until March 22, 2021. On November 20, 2020, CMS issued an interim final rule implementing President Trump's Most Favored Nation executive order, which would tie Medicare Part B payments for certain physician-administered drugs to the lowest price paid in other economically advanced countries, effective January 1, 2021. On December 28, 2020, the United States District Court in Northern California issued a nationwide preliminary injunction against implementation of the interim final rule. However, it is unclear whether the Biden administration will work to reverse these measures or pursue similar policy initiatives. At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, to encourage importation from other countries and bulk purchasing.

Pharmaceutical Coverage, Pricing, and Reimbursement

Significant uncertainty exists as to the coverage and reimbursement status of any product candidates for which we obtain regulatory approval. In the United States and markets in other countries, sales of any products for which we or our collaborators receive regulatory approval for commercial sale will depend, in part, on the extent to which third-party payors provide coverage and establish adequate reimbursement levels for such drug products.

In the United States, third-party payors include federal and state healthcare programs, government authorities, private managed care providers, private health insurers and other organizations. Third-party payors are increasingly challenging the price, examining the medical necessity and reviewing the cost-effectiveness of medical drug products and medical services, in addition to questioning their safety and efficacy. Moreover, the process for determining whether a third-party payor will provide coverage for a drug product may be separate from the process for setting the price of a drug product or for establishing the reimbursement rate that such a payor will pay for the drug product. A payor's decision to provide coverage for a drug product does not imply that an adequate reimbursement rate will be approved. Further, one payor's determination to provide coverage for a drug product does not assure that other payors will also provide coverage for the drug product. Adequate third-party reimbursement may not be available to enable us to maintain price levels sufficient to realize an appropriate return on our investment in product development.

The marketability of any product candidates for which we receive regulatory approval for commercial sale may suffer if the government and third-party payors fail to provide adequate coverage and reimbursement. In addition, emphasis on managed care in the United States has increased and we expect will continue to increase the pressure on pharmaceutical pricing. Coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which we or our collaborators receive regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

Europe / rest of world government regulation

In addition to regulations in the United States, we and our strategic collaboration partners are subject to a variety of regulations in other jurisdictions governing, among other things, clinical trials and any commercial sales and distribution of our products.

Whether or not we or our collaborators obtain FDA approval for a product, we must obtain the requisite approvals from regulatory authorities in foreign countries prior to the commencement of clinical trials or marketing of the product in those countries. Certain countries outside of the United States have a similar process that requires the submission of a clinical trial application much like the IND prior to the commencement of human clinical trials. In the European Union, for example, a clinical trial application ("CTA") must be submitted to each country's national health authority and an independent ethics committee, much like the FDA and IRB, respectively. Once the CTA is approved in accordance with a country's requirements, clinical trial development may proceed.

The requirements and process governing the conduct of clinical trials, product licensing, pricing and reimbursement vary from country to country. In all cases, the clinical trials are conducted in accordance with GCPs and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki.

To obtain regulatory approval of an investigational drug or biological product under European Union regulatory systems, we or our strategic collaboration partners must submit a marketing authorization application. The application in the United States is similar to that required in the European Union, with the exception of, among other things, country-specific document requirements.

For other countries outside of the European Union, 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 are conducted in accordance with GCPs and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki.

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

Employees

As of December 31, 2020, we had 24 employees, all of which were full-time employees. Of these employees, 16 employees are engaged in research and development activities and 8 employees are engaged in finance, legal, human resources, facilities and general management. We have no collective bargaining agreements with our employees and we have not experienced any work stoppages.

Corporate Information

We were originally formed as a limited liability company under the name Regulus Therapeutics LLC in the State of Delaware in September 2007. In January 2009, we converted Regulus Therapeutics LLC to a Delaware corporation and changed our name to Regulus Therapeutics Inc. Our principal executive offices are located in San Diego, California and our telephone number is (858) 202-6300.

We maintain a website at www.regulusrx.com, to which we regularly post copies of our press releases as well as additional information about us. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to reports filed pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended ("Exchange Act") are available free of charge on our website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. The SEC maintains an internet site that contains our public filings with the SEC and other information regarding the Company, at www.sec.gov. The contents of these websites are not incorporated into this Annual Report. Further, our references to the URLs for these websites are intended to be inactive textual reference only.

The Regulus Therapeutics logo is a trademark of Regulus Therapeutics Inc. We use "Regulus Therapeutics" as a trademark in the United States and other countries. We have registered this trademark in the United States, the European Union and Switzerland. We use "*micro*Markers" as a servicemark in the United States and other countries. We have registered this servicemark in the United States. This Annual Report contains references to our trademarks and to trademarks belonging to other entities. Solely for convenience, trademarks and trade names referred to in this Annual Report, including logos, artwork and other visual displays, may appear without the ® or ™ symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these

trademarks and trade names. We do not intend our use or display of other companies' trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

Item 1A. Risk Factors

RISK FACTORS

You should consider carefully the following risk factors, together with all of the other information included in this Annual Report. Each of these risk factors, either alone or taken together, could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our common stock. There may be additional risks that we do not presently know of or that we currently believe are immaterial which could also impair our business and financial position.

RISKS RELATED TO THE DISCOVERY AND DEVELOPMENT OF PRODUCT CANDIDATES

The approach we are taking to discover and develop drugs is novel and may never lead to marketable products.

We have concentrated our therapeutic product research and development efforts on *micro*RNA technology, and our future success depends on the successful development of this technology and products based on our *micro*RNA product platform. Neither we, nor any other company, has received regulatory approval to market therapeutics targeting *micro*RNAs. The scientific discoveries that form the basis for our efforts to discover and develop product candidates are relatively new. The scientific evidence to support the feasibility of developing product candidates based on these discoveries is both preliminary and limited. If we do not successfully develop and commercialize product candidates based upon our technological approach, we may not become profitable and the value of our common stock may decline.

Further, our focus solely on *micro*RNA technology for developing drugs as opposed to multiple, more proven technologies for drug development increases the risks associated with the ownership of our common stock. If we are not successful in developing any product candidates using *micro*RNA technology, we may be required to change the scope and direction of our product development activities. In that case, we may not be able to identify and implement successfully an alternative product development strategy.

We may not be successful in our efforts to identify or discover potential product candidates.

The success of our business depends primarily upon our ability to identify, develop and commercialize *micro*RNA therapeutics. Our research programs may initially show promise in identifying potential product candidates, yet fail to yield product candidates for clinical development for a number of reasons, including:

- our research methodology or that of any collaboration partner may be unsuccessful in identifying potential product candidates;
- potential product candidates may be shown to have harmful side effects or may have other characteristics that may make the products unmarketable or unlikely to receive marketing approval; or
- our current or future collaboration partners may change their development profiles for potential product candidates or abandon a therapeutic area.

If any of these events occur, we may be forced to abandon our development efforts for a program or programs, which would have a material adverse effect on our business and could potentially cause us to cease operations. Research programs to identify new product candidates require substantial technical, financial and human resources. We may focus our efforts and resources on potential programs or product candidates that ultimately prove to be unsuccessful.

Preclinical and clinical studies of our product candidates may not be successful. If we are unable to generate successful results from our preclinical and clinical studies of our product candidates, or experience significant delays in doing so, our business may be materially harmed.

We have invested a significant portion of our efforts and financial resources in the identification and development of product candidates that target *micro*RNAs. Our ability to generate product revenues, which we do not expect will occur for many years, if ever, will depend heavily on the successful development and eventual commercialization of our product candidates.

The success of our product candidates will depend on several factors, including the following:

- successfully designing preclinical studies which may be predictive of clinical outcomes;
- successful results from preclinical and clinical studies;
- receipt of marketing approvals from applicable regulatory authorities;
- obtaining and maintaining patent and trade secret protection for future product candidates;
- establishing and maintaining manufacturing relationships with third parties or establishing our own manufacturing capability; and
- successfully commercializing our products, if and when approved, whether alone or in collaboration with others.

If we do not achieve one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully complete the development of, or commercialize, our product candidates, which would materially harm our business.

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

Before obtaining marketing approval from regulatory authorities for the sale of product candidates, we or a collaboration partner must conduct extensive clinical trials to demonstrate the safety and efficacy of the product candidates in humans. Clinical trials are expensive, difficult to design and implement, can take many years to complete and is uncertain as to outcome. A failure of one or more clinical trials can occur at any stage of testing. The outcome of preclinical studies 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 marketing approval for their products.

Events which may result in a delay or unsuccessful completion of clinical development include:

- delays in reaching an agreement with the FDA or other regulatory authorities on final trial design;
- imposition of a clinical hold of our clinical trial operations or trial sites by the FDA or other regulatory authorities;
- delays in reaching agreement on acceptable terms with prospective CROs and clinical trial sites;
- our inability to adhere to clinical trial requirements directly or with third parties such as CROs;
- delays in obtaining required institutional review board approval at each clinical trial site;
- delays in recruiting suitable patients to participate in a trial;
- delays in the testing, validation, manufacturing and delivery of the product candidates to the clinical sites;
- delays in having patients complete participation in a trial or return for post-treatment follow-up;
- delays caused by patients dropping out of a trial due to protocol procedures or requirements, product side effects or disease progression;
- clinical sites dropping out of a trial to the detriment of enrollment;
- time required to add new clinical sites; or
- delays by our contract manufacturers to produce and deliver sufficient supply of clinical trial materials.

For example, in July 2018, we voluntarily paused our Phase 1 MAD clinical trial for RGLS4326 due to unexpected observations in our 27-week mouse chronic toxicity study, which was designed to support the Phase 2 proof-of-concept clinical trial in ADPKD previously planned to start in mid-2019. The observations in the mouse chronic toxicity study were unexpected, given the favorable safety profile of RGLS4326 in previous non-GLP and GLP toxicity studies at the same or similar doses supporting the IND and Phase 1 clinical trial. In consultation with the FDA, we initiated a new mouse chronic toxicity study with certain changes that are believed to address the unexpected observations. In January 2019, we announced data from a planned interim analysis of this study after 13 weeks of dosing in which no adverse or other significant findings across the range of doses tested were shown. We submitted a comprehensive data package for RGLS4326 to FDA that included the results

from the planned 13-week interim analysis of the ongoing repeat mouse chronic toxicity study, as well as results from additional investigations, analytical testing, additional data from the previously terminated mouse chronic toxicity study, data from the completed Phase 1 SAD study and data from the first cohort of the Phase 1 MAD study to support our plan to resume the Phase 1 MAD study. In July 2019, FDA notified us of additional nonclinical data requirements and placed the IND on a partial clinical hold, formalizing the specific requirements to initiate the MAD study and further proceed into chronic dosing. The additional data requirements have been outlined in two parts. In order to resume the MAD study, FDA requested the final reports from the chronic toxicity studies in both mice and non-human primates and satisfactory related analyses to ensure subjects can be safely dosed. In November 2019, we submitted a complete response to the partial clinical hold in order to be able to resume the MAD study and in December 2019 FDA lifted the partial clinical hold of the MAD study. We recommenced the MAD study in February 2020 and have completed all dosing. Information from the clinical studies, together with information from additional nonclinical studies, will be used to address the requirements to support studies of extended duration. In addition to the MAD study in healthy volunteers, we have initiated a Phase 1b study in patients with ADPKD to evaluate RGLS4326 for safety, PK, and changes in levels of PC1 and PC2. We cannot be certain that we will be able to satisfy the requirements to initiate studies of extended duration in a timely manner, or at all.

In addition, enrollment and retention of patients in clinical trials could be disrupted by man-made or natural disasters, public health pandemics or epidemics or other business interruptions, including the ongoing COVID-19 pandemic. For example, we expect new site initiation and patient enrollment has been delayed in the RG-012 Phase 2 clinical trial being conducted by Sanofi. In addition, COVID-19 may impact site initiation activities and subsequent study enrollment for our RGLS4326 clinical trials.

If we or our current or future collaboration partners are required to conduct additional clinical trials or other testing of any product candidates beyond those that are currently contemplated, are unable to successfully complete clinical trials of any such product candidates or other testing, or if the results of these trials or tests are not positive or are only moderately positive or if there are safety concerns, we or our current or future collaboration partners may:

- be delayed in obtaining marketing approval for our future product candidates;
- not obtain marketing approval at all;
- obtain approval for indications or patient populations that are not as broad as originally intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or safety warnings;
- be subject to additional post-marketing testing requirements; or
- have the product removed from the market after obtaining marketing approval.

Our product development costs will also increase if we experience delays in testing or marketing approvals. We do not know whether any clinical trials will begin as planned, will need to be restructured or will be completed on schedule, or at all. Significant clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do, which would impair our ability to successfully commercialize our product candidates and may harm our business and results of operations. Any inability to successfully complete preclinical and clinical development, whether independently or with a collaboration partner, could result in additional costs to us or impair our ability to generate revenues from product sales, regulatory and commercialization milestones and royalties.

Any of our product candidates may cause adverse effects or have other properties that could delay or prevent their regulatory approval or limit the scope of any approved label or market acceptance.

Adverse events ("AEs") caused by our product candidates could cause us, other reviewing entities, clinical trial sites or regulatory authorities to interrupt, delay or halt clinical trials and could result in the denial of regulatory approval. Certain oligonucleotide therapeutics have shown injection site reactions and pro-inflammatory effects and may also lead to impairment of kidney or liver function. There is a risk that our future product candidates may induce similar AEs.

If AEs are observed in any clinical trials of our product candidates, including those that a collaboration partner may develop under an agreement with us, our or our collaboration partners' ability to obtain regulatory approval for product candidates may be negatively impacted.

Further, if any of our future products, if and when approved for commercial sale, cause serious or unexpected side effects, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw their approval of the product or impose restrictions on its distribution in the form of a modified risk evaluation and mitigation strategy;
- regulatory authorities may require the addition of labeling statements, such as warnings or contraindications;
- we may be required to change the way the product is administered or conduct additional clinical trials;
- we could be sued and held liable for harm caused to patients; or
- our reputation may suffer.

Any of these events could prevent us or our collaboration partners from achieving or maintaining market acceptance of the affected product and could substantially increase the costs of commercializing our future products and impair our ability to generate revenues from the commercialization of these products either on our own or with a collaboration partner.

Even if we complete the necessary preclinical studies and clinical trials, we cannot predict whether or when we will obtain regulatory approval to commercialize a product candidate and we cannot, therefore, predict the timing of any revenue from a future product.

Neither we nor any collaboration partner can commercialize a product until the appropriate regulatory authorities, such as the FDA, have reviewed and approved the product candidate. The regulatory agencies may not complete their review processes in a timely manner, or we may not be able to obtain regulatory approval. Additional delays may result if an FDA Advisory Committee recommends restrictions on approval or recommends non-approval. In addition, we or a collaboration partner may experience delays or rejections based upon additional government regulation from future legislation or administrative action, or changes in regulatory agency policy during the period of product development, clinical trials and the review process.

Even if we obtain regulatory approval for a product candidate, we will still face extensive regulatory requirements and our products may face future development and regulatory difficulties.

Even if we obtain regulatory approval in the United States, the FDA may still impose significant restrictions on the indicated uses or marketing of our product candidates, or impose ongoing requirements for potentially costly post-approval studies or post-market surveillance. The holder of an approved NDA is obligated to monitor and report AEs and any failure of a product to meet the specifications in the NDA. The holder of an approved NDA must also submit new or supplemental applications and obtain FDA approval for certain changes to the approved product, product labeling or manufacturing process. Advertising and promotional materials must comply with FDA rules and are subject to FDA review, in addition to other potentially applicable federal and state laws.

In addition, drug product manufacturers and their facilities are subject to payment of user fees and continual review and periodic inspections by the FDA and other regulatory authorities for compliance with current good manufacturing practices ("cGMP") and adherence to commitments made in the NDA. If we or a regulatory agency discovers previously unknown problems with a product such as AEs of unanticipated severity or frequency, or problems with the facility where the product is manufactured, a regulatory agency may impose restrictions relative to that product or the manufacturing facility, including requiring recall or withdrawal of the product from the market or suspension of manufacturing.

If we or our partners fail to comply with applicable regulatory requirements following approval of any of our product candidates, a regulatory agency may:

- issue a warning letter asserting that we are in violation of the law;
- seek an injunction or impose civil or criminal penalties or monetary fines;
- suspend or withdraw regulatory approval;
- suspend any ongoing clinical trials;
- refuse to approve a pending NDA or supplements to an NDA submitted by us;
- seize product; or
- refuse to allow us to enter into supply contracts, including government contracts.

Moreover, the FDA closely regulates the marketing, labeling, advertising and promotion of pharmaceutical products. A company can make only those claims relating to safety and efficacy, purity and potency that are approved by the FDA and in accordance with the provisions of the approved label. Companies may also share truthful and not misleading information that is otherwise consistent with the labeling. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses. Failure to comply with these requirements can result in significant civil, criminal and administrative penalties. Physicians may prescribe legally available products for uses that are not described in the product's labeling and that differ from those tested by us and approved by the FDA. Such off-label uses are common across medical specialties. Physicians may believe that such off-label uses are the best treatment for many patients in varied circumstances. The FDA does not regulate the behavior of physicians in their choice of treatments. The FDA does, however, restrict manufacturer's communications on the subject of off-label use of their products.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response and could generate negative publicity. The occurrence of any event or penalty described above may inhibit our ability to commercialize our future products and generate revenues.

We may not be successful in obtaining or maintaining necessary rights to *micro*RNA targets, drug compounds and processes for our development pipeline through acquisitions and in-licenses.

Presently we have rights to the intellectual property, through licenses from third parties and under patents that we own, to modulate only a subset of the known *micro*RNA targets. Because our programs may involve a range of *micro*RNA targets, including targets that require the use of proprietary rights held by third parties, the growth of our business will likely depend in part on our ability to acquire, in-license or use these proprietary rights. In addition, our product candidates may require specific formulations to work effectively and efficiently and these rights may be held by others. We may be unable to acquire or in-license any compositions, methods of use, processes or other third-party intellectual property rights from third parties that we identify. The licensing and acquisition of third-party intellectual property rights is a competitive area, and a number of more established companies are also pursuing strategies to license or acquire third-party intellectual property rights that we may consider attractive. These established companies may have a competitive advantage over us due to their size, cash resources and greater clinical development and commercialization capabilities.

For example, we may collaborate with U.S. and foreign 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 right of first negotiation for intellectual property, we may be unable to negotiate a license within the specified time frame 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.

In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to license or acquire third-party intellectual property rights on terms that would allow us to make an appropriate return on our investment. If we are unable to successfully obtain rights to required third-party intellectual property rights, our business, financial condition and prospects for growth could suffer.

We may use our financial and human resources to pursue a particular research program or product candidate and fail to capitalize on programs or product candidates that may be more profitable or for which there is a greater likelihood of success.

Because we have limited financial and human resources, our existing strategy is to pursue collaboration agreements for the development and commercialization of our programs and potential product candidates in indications with potentially large commercial markets such as ADPKD, HCC, fibrosis, HCV, and HBV, while focusing our internal development resources and any internal sales and marketing organization that we may establish on research programs and product candidates for selected markets, such as orphan diseases. As a result, we may forego or delay pursuit of opportunities with other programs or product candidates or for other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on research and development programs and product candidates for specific indications may not yield any commercially viable products. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate, or we may allocate internal resources to a product candidate in a therapeutic area in which it would have been more advantageous to enter into a partnering arrangement.

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

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and biological materials. Our operations also produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties.

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 or other work-related injuries, this insurance may not provide adequate coverage against potential liabilities. In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair our research, development or production efforts. Failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

RISKS RELATED TO OUR FINANCIAL CONDITION AND NEED FOR ADDITIONAL CAPITAL

We will need to raise additional capital, and if we are unable to do so when needed, we will not be able to continue as a going concern.

This Form 10-K includes disclosures regarding management's assessment of our ability to continue as a going concern as our current liquidity position and recurring losses from operations since inception and negative cash flows from operating activities raise substantial doubt about our ability to continue as a going concern. As of December 31, 2020, we had approximately $31.1 million of cash and cash equivalents and we had $6.0 million of outstanding debt obligations (which includes $4.7 million of outstanding principal and $1.3 million of final payment and loan amendment fees) under our $20.0 million term loan ("Term Loan") with Oxford Finance, LLC ("Oxford" or the "Lender"), which we borrowed under a loan and security agreement with Oxford dated June 2016 (as amended, the "Loan Agreement"). Additionally, we had $0.7 million of debt obligations outstanding from amounts received under the Paycheck Protection Program of the CARES Act ("PPP Loan"). We will need to raise additional capital to fund our operations and service our debt obligations, and if we are unable to raise additional capital when needed, we will not be able to continue as a going concern.

Developing pharmaceutical products, including conducting preclinical studies and clinical trials, is expensive. We expect our research and development expenses to substantially increase in connection with our ongoing activities, particularly as we advance our product candidates towards or through clinical trials. We will need to raise additional capital to fund our operations and such funding may not be available to us on acceptable terms, or at all.

Additionally, our collaboration partners may not elect to pursue the development and commercialization of any of our *micro*RNA product candidates that are subject to their respective collaboration agreements with us. Any of these events may increase our development costs more than we expect. In November 2018, we and Sanofi agreed to transition further development activities of our miR-21 programs, including our RG-012 program, to Sanofi, which will be responsible for all costs incurred in the development of our miR-21 programs. As a result, we will not receive royalties in the event our miR-21 programs are eventually commercialized and will also receive significantly reduced milestones for these programs. We may need to raise additional capital or otherwise obtain funding through additional collaborations if we choose to initiate clinical trials for new product candidates other than programs currently partnered. In any event, we will require additional capital to obtain regulatory approval for, and to commercialize, future product candidates.

For the foreseeable future, we expect to rely primarily on equity and/or debt financings to fund our operations. Raising additional capital through the sale of securities could cause significant dilution to our stockholders.

Any additional fundraising efforts may divert our management from their day-to-day activities, which may adversely affect our ability to develop and commercialize our product candidates. Our ability to raise additional funds will depend, in part, on the success of our preclinical studies and clinical trials and other product development activities, regulatory events, our ability to identify and enter into licensing or other strategic arrangements, and other events or conditions that may affect our value or prospects, as well as factors related to financial, economic and market conditions, many of which are beyond our control. There can be no assurances that sufficient funds will be available to us when required or on acceptable terms, if at all.

If we are unable to raise additional capital when required or on acceptable terms, we may be required to:

- significantly delay, scale back or discontinue the development or commercialization of any future product candidates;
- seek collaborations, or amend existing collaborations, for research and development programs at an earlier stage than otherwise would be desirable or for the development of programs that we otherwise would have sought to develop independently, or on terms that are less favorable than might otherwise be available;
- dispose of technology assets, or relinquish or license on unfavorable terms, our rights to technologies or any future product candidates that we otherwise would seek to develop or commercialize ourselves;
- pursue the sale of our company to a third party at a price that may result in a loss on investment for our stockholders; or
- file for bankruptcy or cease operations altogether.

Any of these events could have a material adverse effect on our business, operating results and prospects.

Payments under the instruments governing our indebtedness may reduce our working capital. In addition, a default under our loan and security agreement could cause a material adverse effect on our financial position.

In June 2016, we entered into a loan and security agreement with Oxford (the "Loan Agreement"). Under the terms of the Loan Agreement, Oxford provided us with a term loan of $20.0 million ("Term Loan"). Our obligations under the Loan Agreement are secured by a first priority security interest in substantially all of our current and future assets, except for the assets that were licensed, assigned and transferred to Sanofi pursuant to a November 2018 amendment (the “2018 Sanofi Amendment”) to our collaboration and license agreement with Sanofi dated February 4, 2014 (the “Sanofi License Agreement”) that modify the parties’ rights and obligations with respect to our miR-21 programs, including our RG-012 program, provided that Oxford will continue to have liens on all proceeds received by us pursuant to the Sanofi License Agreement. We have also agreed not to encumber our intellectual property assets, except as permitted by the Loan Agreement. Our required monthly payments to the Lender are comprised of interest only through and including the payment to be made in December 2021. We are required to maintain $3.0 million in cash in a collateral account.

Amounts outstanding under the Term Loan mature on May 1, 2022.

Under the Term Loan, our interest rate on borrowed amounts is dependent on LIBOR. LIBOR is the basic rate of interest used in lending between banks on the London interbank market and is widely used as a reference for setting the interest rate on loans globally. In July 2017, the Chief Executive of the United Kingdom Financial Conduct Authority (“FCA”), which regulates LIBOR, announced that the FCA intends to phase out the use of LIBOR by the end of 2021. In addition, the U.S. Federal Reserve, in conjunction with the Alternative Reference Rates Committee, a steering committee comprised of large U.S. financial institutions, is considering replacing U.S. dollar LIBOR with the Secured Overnight Financing Rate (“SOFR”), a new index calculated by short-term repurchase agreements, backed by Treasury securities. Although there have been certain issuances utilizing SOFR, it is unknown whether this or any other alternative reference rate will attain market acceptance as a replacement for LIBOR. The consequences of these developments cannot be entirely predicted, but could result in higher interest rates on our outstanding principal amount under the Term Loan. We cannot provide assurance that future interest rate changes will not have a material negative impact on our business, financial position, or operating results.

The Loan Agreement requires us, and any debt arrangements we may enter into in the future may require us, to comply with various covenants that limit our ability to, among other things:

- dispose of assets;
- complete mergers or acquisitions;
- incur indebtedness;
- encumber assets;
- pay dividends or make other distributions to holders of our capital stock;
- make specified investments; and
- engage in transactions with our affiliates.

These restrictions could inhibit our ability to pursue our business strategies. If we default under our obligations under the Loan Agreement, the lender could proceed against the collateral granted to it to secure our indebtedness or declare all obligation under the Loan Agreement to be due and payable. In certain circumstances, procedures by the lenders could result in a loss by us of all of our equipment and inventory, which are included in the collateral granted to the lenders. If any indebtedness under the Loan Agreement were to be accelerated, there can be no assurance that our assets would be sufficient to repay in full that indebtedness. In addition, upon any distribution of assets pursuant to any liquidation, insolvency, dissolution, reorganization or similar proceeding, the holders of secured indebtedness will be entitled to receive payment in full from the proceeds of the collateral securing our secured indebtedness before the holders of other indebtedness or our common stock will be entitled to receive any distribution with respect thereto.

We may incur additional indebtedness in the future. The debt instruments governing such indebtedness may contain provisions that are as, or more, restrictive than the provisions governing our existing indebtedness under the Loan Agreement. If we are unable to repay, refinance or restructure our indebtedness when payment is due, the lenders could proceed against the collateral or force us into bankruptcy or liquidation.

In addition, in April 2020 we received proceeds of approximately $0.7 million from a PPP Loan, all or a portion of which may be forgiven, which we have used to retain employees, maintain payroll and make lease and utility payments. The PPP Loan matures on April 23, 2022 and bears interest at a rate of 1.00% per annum. We have used all proceeds from the PPP Loan to retain employees and maintain payroll and are seeking forgiveness in accordance with the program. Under the CARES Act and PPP Flexibility Act, loan forgiveness is available for the sum of documented payroll costs, covered mortgage interest, covered rent payments and covered utilities during the 24 week period beginning on the date of loan disbursement. Not more than 40% of the forgiven amount may be for non-payroll costs. The amount of the PPP Loan eligible to be forgiven will be reduced if our full-time headcount declined during the covered period as compared to specified reference periods, or if salaries and wages for employees with salaries of $100,000 or less annually were reduced by more than 25%, unless certain safe harbors were met. We believe the entire $0.7 million in proceeds from the PPP Loan was used for allowable payroll-related costs. We will be required to repay any portion of the outstanding principal that is not forgiven, along with accrued interest, in accordance with the amortization schedule described above, and we cannot provide any assurance that we will be eligible for loan forgiveness or that any amount of the PPP Loan will ultimately be forgiven by the U.S Small Business Administration ("SBA").

If we are found to be in violation of any of the laws or governmental regulations that apply to us in connection with the PPP Loan, including the False Claims Act, or it is otherwise determined that we were not eligible to receive the PPP Loan, we may be subject to penalties, including significant civil, criminal and administrative penalties and could be required to repay the PPP Loan in its entirety. In addition, our receipt of the PPP Loan may result in adverse publicity and damage to our reputation, and a review or audit by the SBA or other government entity or claims under the False Claims Act could consume significant financial and management resources.

We have incurred significant losses since our inception and anticipate that we will continue to incur significant losses for the foreseeable future.

Since inception, our operations have been primarily limited to acquiring and in-licensing intellectual property rights, developing our *micro*RNA product platform, undertaking basic research around *micro*RNA targets and conducting preclinical and clinical studies for our initial programs. We have not yet obtained regulatory approval for any product candidates. Consequently, any predictions about our future success or viability, or any evaluation of our business and prospects, may not be accurate.

We have incurred losses in each year since our inception in September 2007. Our net losses were $15.7 million and $18.6 million for years ended December 31, 2020 and 2019, respectively. As of December 31, 2020, we had an accumulated deficit of $427.0 million.

We have devoted most of our financial resources to research and development, including our preclinical and clinical development activities. To date, we have financed our operations primarily through the sale of equity securities and convertible debt, through our Term Loan and from revenue received from our collaboration partners. We have a collaboration with Sanofi relating to the development of our miR-221/222 program for oncology indications. Under our collaboration and license agreement with Sanofi, Sanofi has an option to obtain exclusive worldwide licenses for the development, manufacture and commercialization of our preclinical program targeting miR-221/222 for HCC. If Sanofi exercises its option, it will assume responsibility for funding and conducting further clinical development and commercialization activities for such product candidate. However, if Sanofi does not exercise its option, we will be responsible for funding further development of the applicable product candidate and may not have the resources to do so unless we are able to enter into another collaboration for such product candidate. Pursuant to the 2018 Sanofi Amendment, we completed the transition of further development activities

of our miR-21 programs, including our RG-012 program, to Sanofi, in the second quarter of 2019. As a result, Sanofi became responsible for all costs incurred in the development of our miR-21 programs.

The size of our future net losses will depend, in part, on the rate of future expenditures and our ability to obtain funding through equity or debt financings, collaborations or grants. We re-initiated clinical development of RGLS4326 for the treatment of ADPKD. We had also initiated clinical development of RG-012, which we subsequently transferred to Sanofi, and it will be several years, if ever, before Sanofi has a product candidate ready for commercialization. Even if we or a collaboration partner successfully obtains regulatory approval to market a product candidate, our revenues will also depend upon the size of any markets in which our product candidates have received market approval, and our ability to achieve sufficient market acceptance and adequate market share for our products.

We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. The net losses we incur may fluctuate significantly from quarter to quarter. We anticipate that our expenses will increase substantially if and as we: continue our research and preclinical and clinical development of our product candidates, both independently and under our collaboration agreements; seek to identify additional *micro*RNA targets and product candidates; acquire or in-license other products and technologies; continue with clinical development of our product candidates; seek marketing approvals for our product candidates that successfully complete clinical trials; ultimately establish a sales, marketing and distribution infrastructure to commercialize any products for which we may obtain marketing approval; maintain, expand and protect our intellectual property portfolio; hire additional clinical, regulatory, research and administrative personnel; and create additional infrastructure to support our operations and our product development and planned future commercialization efforts.

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

Our ability to generate revenue and achieve profitability depends on our ability, alone or with collaboration partners, to successfully complete the development of, obtain the necessary regulatory approvals for and commercialize product candidates. We do not anticipate generating revenues from sales of products for the foreseeable future, if ever. Our ability to generate future revenues from product sales depends heavily on our success in:

- identifying and validating new *micro*RNAs as therapeutic targets;
- completing our research and preclinical development of product candidates;
- initiating and completing clinical trials for product candidates;
- seeking and obtaining marketing approvals for product candidates that successfully complete clinical trials;
- establishing and maintaining supply and manufacturing relationships with third parties;
- launching and commercializing product candidates for which we obtain marketing approval, with a collaboration partner or, if launched independently, successfully establishing a sales force, marketing and distribution infrastructure;
- maintaining, protecting and expanding our intellectual property portfolio; and
- attracting, hiring and retaining qualified personnel.

Because of the numerous risks and uncertainties associated with pharmaceutical product development, we are unable to predict the timing or amount of increased expenses and when we will be able to achieve or maintain profitability, if ever. In addition, our expenses could increase beyond expectations if we are required by the FDA or foreign regulatory agencies to perform studies and trials in addition to those that we currently anticipate.

Even if one or more of the product candidates that we independently develop is approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product. Even if we are able to generate revenues from the sale of any approved products, we may not become profitable and may need to obtain additional funding to continue operations.

RISKS RELATED TO OUR RELIANCE ON THIRD PARTIES

We will depend upon collaborations for the development and eventual commercialization of certain *micro*RNA product candidates. If these collaborations are unsuccessful or are terminated, we may be unable to commercialize certain product candidates and we may be unable to generate revenues from our development programs.

We are likely to depend upon third party collaboration partners for financial and scientific resources for the clinical development and commercialization of certain of our *micro*RNA product candidates. These collaborations will likely provide us

with limited control over the course of development of a *micro*RNA product candidate, especially once a candidate has reached the stage of clinical development. For example, in our strategic collaboration with Sanofi, Sanofi has the option to obtain an exclusive worldwide license to develop, manufacture and commercialize our preclinical program targeting miR-221/222 for HCC upon the achievement of relevant endpoints in clinical trials. However, Sanofi is not under any obligation to exercise this option. While Sanofi has development obligations with respect to programs that it may elect to pursue under our agreement, our ability to ultimately recognize revenue from this and future relationships will depend upon the ability and willingness of our collaboration partners to successfully meet their respective responsibilities under our agreements with them. In November 2018, we and Sanofi agreed to transition further development activities of our miR-21 programs, including our RG-012 program, to Sanofi. As a result, Sanofi became responsible for all costs incurred in the development of our miR-21 program, but we will not receive royalties in the event our miR-21 programs are eventually commercialized, and the milestone payments we are eligible to receive for these programs has been significantly reduced.

Our ability to recognize revenues from successful collaborations may be impaired by several factors including:

- a collaboration partner may shift its priorities and resources away from our programs due to a change in business strategies, or a merger, acquisition, sale or downsizing of its company or business unit;
- a collaboration partner may cease development in therapeutic areas which are the subject of our collaborations;
- a collaboration partner may change the success criteria for a particular program or potential product candidate thereby delaying or ceasing development of such program or candidate;
- a significant delay in initiation of certain development activities by a collaboration partner will also delay payment of milestones tied to such activities, thereby impacting our ability to fund our own activities;
- a collaboration partner could develop a product that competes, either directly or indirectly, with a collaboration product;
- a collaboration partner with commercialization obligations may not commit sufficient financial or human resources to the marketing, distribution or sale of a product;
- a collaboration partner with manufacturing responsibilities may encounter regulatory, resource or quality issues and be unable to meet demand requirements;
- a collaboration partner may exercise its rights under the agreement to terminate the collaboration;
- a dispute may arise between us and a collaboration partner concerning the research, development or commercialization of a program or product candidate resulting in a delay in milestones, royalty payments or termination of a program and possibly resulting in costly litigation or arbitration which may divert management attention and resources; and
- a collaboration partner may use our proprietary information or intellectual property in such a way as to invite litigation from a third party or fail to maintain or prosecute intellectual property rights such that our rights in such property are jeopardized.

Specifically, with respect to termination rights, Sanofi may terminate the entire collaboration or its current collaboration target program for any or no reason upon 30 days' written notice to us. The agreement with Sanofi may also be terminated by either party for material breach by the other party, including a failure to comply with such party's diligence obligations that remains uncured after 120 days. Depending on the timing of any such termination, we may not be entitled to receive the option exercise fees or milestone payments, as these payments terminate with termination of the respective program or agreement.

If Sanofi does not elect to pursue the development and commercialization of the *micro*RNA development candidates covered by our collaboration and license agreement with Sanofi or if Sanofi terminates the agreement, then, depending on the event:

- under certain circumstances, we may owe Sanofi royalties with respect to product candidates covered by our agreement with Sanofi that we elect to continue to commercialize, depending upon the stage of development at which such product commercialization rights reverted back to us, or additional payments if we license such product candidates to third parties;
- product candidates subject to the Sanofi agreement, as applicable, may be terminated or significantly delayed;
- our cash expenditures could increase significantly if it is necessary for us to hire additional employees and allocate scarce resources to the development and commercialization of product candidates that were previously funded by Sanofi;

- we would bear all of the risks and costs related to the further development and commercialization of product candidates that were previously the subject of the Sanofi agreement, including the reimbursement of third parties; and
- in order to fund further development and commercialization, we may need to seek out and establish alternative collaborations with third-party partners; this may not be possible, or we may not be able to do so on terms which are acceptable to us, in which case it may be necessary for us to limit the size or scope of one or more of our programs or increase our expenditures and seek additional funding by other means.

Any of these events could have a material adverse effect on our results of operations and financial condition.

We rely on third parties to conduct some aspects of our compound formulation, research and preclinical studies, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such formulation, research or testing.

We do not expect to independently conduct all aspects of our drug discovery activities, compound formulation research or preclinical studies of product candidates. We currently rely and expect to continue to rely on third parties to conduct some aspects of our preclinical studies and formulation development.

Any of these third parties may terminate their engagements with us at any time. If we need to enter into alternative arrangements, it would delay our product development activities. Our reliance on these third parties for research and development activities will reduce our control over these activities but will not relieve us of our responsibilities. For example, for product candidates that we develop and commercialize on our own, we will remain responsible for ensuring that each of our IND-enabling studies and clinical trials are conducted in accordance with the study plan and protocols for the trial.

If these third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct our studies in accordance with regulatory requirements or our stated study plans and protocols, we will not be able to complete, or may be delayed in completing, the necessary preclinical studies to enable us or our collaboration partners to select viable product candidates for IND submissions and will not be able to, or may be delayed in our efforts to, successfully develop and commercialize such product candidates.

We rely on third-party manufacturers to produce our preclinical and clinical product candidates, and we intend to rely on third parties to produce future clinical supplies of product candidates that we advance into clinical trials and commercial supplies of any approved product candidates.

Reliance on third-party manufacturers entails risks, including risks that we would not be subject to if we manufactured the product candidates ourselves, including:

- the inability to meet any product specifications and quality requirements consistently;
- a delay or inability to procure or expand sufficient manufacturing capacity;
- manufacturing and product quality issues related to scale-up of manufacturing;
- costs and validation of new equipment and facilities required for scale-up;
- a failure to comply with cGMP and similar foreign standards;
- the inability to negotiate manufacturing or supply agreements with third parties under commercially reasonable terms;
- termination or nonrenewal of manufacturing agreements with third parties in a manner or at a time that is costly or damaging to us;
- the reliance on a limited number of sources, and in some cases, single sources for raw materials, such that if we are unable to secure a sufficient supply of these product components, we will be unable to manufacture and sell future product candidates in a timely fashion, in sufficient quantities or under acceptable terms;
- the lack of qualified backup suppliers for any raw materials that are currently purchased from a single source supplier;
- operations of our third-party manufacturers or suppliers could be disrupted by conditions unrelated to our business or operations, including the bankruptcy of the manufacturer or supplier;
- carrier disruptions or increased costs that are beyond our control;
- disruptions caused by man-made or natural disasters or public health pandemics or epidemics or other business interruptions, including, for example, the COVID-19 pandemic; and

- the failure to deliver products under specified storage conditions and in a timely manner.

Any of these events could lead to clinical study delays or failure to obtain regulatory approval, or impact our ability to successfully commercialize future products. Some of these events could be the basis for FDA action, including injunction, recall, seizure or total or partial suspension of production.

We rely on limited sources of supply for the drug substance of product candidates and any disruption in the chain of supply may cause a delay in developing and commercializing these product candidates.

We have established manufacturing relationships with a limited number of suppliers to manufacture raw materials and the drug substance of any product candidate for which we are responsible for preclinical or clinical development. Each supplier may require licenses to manufacture such components if such processes are not owned by the supplier or in the public domain. As part of any marketing approval, a manufacturer and its processes are required to be qualified by the FDA prior to commercialization. If supply from the approved vendor is interrupted, there could be a significant disruption in commercial supply. An alternative vendor would need to be qualified through an NDA supplement which could result in further delay. The FDA or other regulatory agencies outside of the United States may also require additional studies if a new supplier is relied upon for commercial production. Switching vendors may involve substantial costs and is likely to result in a delay in our desired clinical and commercial timelines.

In addition, if our collaboration partners elect to pursue the development and commercialization of certain programs, we will lose control over the manufacturing of the product candidate subject to the agreement. For example, in November 2018, we and Sanofi agreed to transition further development activities of our miR-21 programs, including our RG-012 program, to Sanofi, who is responsible for all costs incurred in the development of our miR-21 programs. As a result, we will no longer be involved in the development or commercialization of our miR-21 programs. Sanofi will be free to use a manufacturer of its own choosing or manufacture the product candidates in its own manufacturing facilities. In such a case, we will have no control over Sanofi's processes or supply chains to ensure the timely manufacture and supply of the product candidates. In addition, we will not be able to ensure that the product candidates will be manufactured under the correct conditions to permit the product candidates to be used in such clinical trials.

These factors could cause the delay of clinical trials, regulatory submissions, required approvals or commercialization of our product candidates, delay milestone payments owed to us or cause us to incur higher costs and prevent us from commercializing our products successfully. Furthermore, if our suppliers fail to deliver the required commercial quantities of active pharmaceutical ingredients on a timely basis and at commercially reasonable prices, and we are unable to secure one or more replacement suppliers capable of production in a timely manner at a substantially equivalent cost, our clinical trials may be delayed or we could lose potential revenue.

Manufacturing issues may arise that could increase product and regulatory approval costs or delay commercialization.

As we scale-up manufacturing of product candidates and conduct required stability testing, product, packaging, equipment and process-related issues may require refinement or resolution in order to proceed with any clinical trials and obtain regulatory approval for commercial marketing. We may identify significant impurities, which could result in increased scrutiny by the regulatory agencies, delays in clinical programs and regulatory approval, increases in our operating expenses, or failure to obtain or maintain approval for product candidates or any approved products.

We rely on third parties to conduct, supervise and monitor our clinical trials, and if those third parties perform in an unsatisfactory manner, it may harm our business.

We or our collaboration partners rely on CROs and clinical trial sites to ensure the proper and timely conduct of our clinical trials. While we will have agreements governing their activities, we and our collaboration partners have limited influence over their actual performance. We control only certain aspects of our CROs' activities. Nevertheless, we or our collaboration partners are responsible for ensuring that each of our clinical trials are conducted in accordance with the applicable protocol, legal, regulatory and scientific standards and our reliance on the CROs does not relieve us of our regulatory responsibilities.

We, our collaboration partners and our CROs are required to comply with the FDA's or other regulatory agency's good clinical practices ("GCPs") for conducting, recording and reporting the results of IND-enabling studies and clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of clinical trial participants are protected. The FDA and non-U.S. regulatory agencies enforce these GCPs through periodic inspections of trial sponsors, principal investigators and clinical trial sites. If we or our CROs fail to comply with applicable GCPs, the clinical data

generated in our clinical trials may be deemed unreliable and the FDA or applicable non-U.S. regulatory agency may require us to perform additional clinical trials before approving any marketing applications for the relevant jurisdiction. Upon inspection, the FDA or applicable non-U.S. regulatory agency may determine that our clinical trials did not comply with GCPs. In addition, our clinical trials will require a sufficiently large number of test subjects to evaluate the safety and effectiveness of a potential drug product. Accordingly, if our CROs fail to comply with these regulations or fail to recruit a sufficient number of patients, we may be required to repeat such clinical trials, which would delay the regulatory approval process.

Our CROs will not be our employees, and we will not be able to control whether or not they devote sufficient time and resources to our clinical and nonclinical programs. These CROs may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials, or other drug development activities which could harm our competitive position. If our CROs do not successfully carry out their contractual duties or obligations, fail to meet expected deadlines, or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements, or for any other reasons, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for, or successfully commercialize our product candidates. As a result, our financial results and the commercial prospects for such products and any product candidates that we develop would be harmed, our costs could increase, and our ability to generate revenues could be delayed.

We also rely on other third parties to store and distribute drug products for any clinical trials that we may conduct. Any performance failure on the part of our distributors could delay clinical development or marketing approval of our product candidates or commercialization of our products, if approved, producing additional losses and depriving us of potential product revenue.

RISKS RELATED TO OUR INTELLECTUAL PROPERTY

If we are unable to obtain or protect intellectual property rights related to our future products and product candidates, we may not be able to compete effectively in our markets.

We rely upon a combination of patents, trade secret protection and confidentiality agreements to protect the intellectual property related to our future products and product candidates. The strength of patents in the biotechnology and pharmaceutical field involves complex legal and scientific questions and can be uncertain. The patent applications that we own or in-license may fail to result in patents with claims that cover the products in the United States or in other countries. There is no assurance that all of the potentially relevant prior art relating to our patents and patent applications has been found; such prior art can invalidate a patent or prevent a patent from issuing based on a pending patent application. Even if patents do successfully issue, third parties may challenge their validity, enforceability or scope, which may result in such patents being narrowed or invalidated. Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property or prevent others from designing around our claims.

If the patent applications we hold or have in-licensed with respect to our programs or product candidates fail to issue or if their breadth or strength of protection is threatened, it could dissuade companies from collaborating with us to develop product candidates, and threaten our ability to commercialize, future products. We cannot offer any assurances about which, if any, patents will issue or whether any issued patents will be found invalid and unenforceable or will be threatened by third parties. A patent may be challenged through one or more of several administrative proceedings including post-grant challenges, re-examination or opposition before the U.S. PTO or foreign patent offices. Any successful challenge of patents or any other patents owned by or licensed to us could deprive us of rights necessary for the successful commercialization of any product candidates that we or our collaboration partners may develop.

Since patent applications in the United States and most other countries are confidential for a period of time after filing, and some remain so until issued, we cannot be certain that we were the first to file any patent application related to a product candidate. Furthermore, in certain situations, if we and one or more third parties have filed patent applications in the United States and claiming the same subject matter, an administrative proceeding, known as an interference, can be initiated to determine which applicant is entitled to the patent on that subject matter. Such an interference proceeding provoked by third parties or brought by us may be necessary to determine the priority of inventions with respect to our patents or patent applications, or those of our collaboration partners or licensors. An unfavorable outcome 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. Our defense of a patent or patent application in such a proceeding may not be successful and, even if successful, may result in substantial costs and distract our management and other employees.

In addition, patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after it is filed. Various extensions may be available however the life of a patent, and the protection it affords, is limited. Once

the patent life has expired for a product, we may be open to competition from generic medications. Further, if we encounter delays in regulatory approvals, the period of time during which we could market a product candidate under patent protection could be reduced.

In addition to the protection afforded by patents, we rely on trade secret protection and confidentiality agreements to protect proprietary know-how that is not patentable, processes for which patents are difficult to enforce and any other elements of our drug discovery and development processes that involve proprietary know-how, information or technology that is not covered by patents. Although each of our employees agrees to assign their inventions to us through an employee inventions agreement, and all of our employees, consultants, advisors and any third parties who have access to our proprietary know-how, information or technology to enter into confidentiality agreements, we cannot provide any assurances that all such agreements have been duly executed or that our trade secrets and other confidential proprietary information will not be disclosed or that competitors will not otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. In addition, others may independently discover our trade secrets and proprietary information.

Further, 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 United States. As a result, we may encounter significant problems in protecting and defending our intellectual property both in the United States and abroad. If we are unable to prevent material disclosure of the non-patented intellectual property related to our technologies to third parties, and there is no guarantee that we will have any such enforceable trade secret protection, we may not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business, results of operations and financial condition.

Third-party claims of intellectual property infringement may prevent or delay our development and commercialization efforts.

Our commercial success depends in part on our avoiding infringement of the patents and proprietary rights of third parties. There is a substantial amount of litigation, both within and outside the United States, involving patent and other intellectual property rights in the biotechnology and pharmaceutical industries, including patent infringement lawsuits. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we and our collaboration partners are pursuing development candidates. For example, we are aware that Roche Innovation Center Copenhagen has patents and patent applications in the *micro*RNA therapeutics space, including patents and patent applications related to targeting *micro*RNAs, such as miR-122, for the treatment of disease. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our product candidates may be subject to claims of infringement of the patent rights of third parties.

Third parties may assert that we are employing their proprietary technology without authorization. There may be third-party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our product candidates. Because patent applications can take many years to issue, there may be currently pending patent applications which may later result in patents that our product candidates may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. If any third-party patents were held by a court of competent jurisdiction to cover the manufacturing process of any of our product candidates, any molecules formed during the manufacturing process or any final product itself, the holders of any such patents may be able to block our ability to commercialize such product candidate unless we obtained a license under the applicable patents, or until such patents expire. Similarly, if any third-party patents were held by a court of competent jurisdiction to cover aspects of our formulations, processes for manufacture or methods of use, including combination therapy, the holders of any such patents may be able to block our ability to develop and commercialize the applicable product candidate unless we obtained a license or until such patent expires. In either case, such a license may not be available on commercially reasonable terms or at all.

Parties making claims against us may obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize one or more of our product candidates. 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. 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, pay royalties, redesign our infringing products or obtain one or more licenses from third parties, which may be impossible or require substantial time and monetary expenditure.

If we fail to comply with our obligations in the agreements under which we license intellectual property rights from third parties or otherwise experience disruptions to our business relationships with our licensors, we could lose license rights that are important to our business.

We are a party to a number of intellectual property license agreements that are important to our business and expect to enter into additional license agreements in the future. Our existing license agreements impose, and we expect that future license agreements will impose, various diligence, milestone payment, royalty and other obligations on us. For example, our exclusive license agreements with our founding companies, Alnylam and Ionis, provide us with rights to nucleotide technologies in the field of *micro*RNA therapeutics based on oligonucleotides that modulate *micro*RNAs. Some of these technologies, such as intellectual property relating to the chemical modification of oligonucleotides, are relevant to our product candidate development programs. If our license agreements with Alnylam or Ionis are terminated, or our business relationships with either of these companies or our other licensors are disrupted by events that may include the acquisition of either company, our access to critical intellectual property rights will be materially and adversely affected.

We may need to obtain licenses from third parties to advance our research or allow commercialization of our product candidates, and we have done so from time to time. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all. In that event, we would be unable to further develop and commercialize one or more of our product candidates, which could harm our business significantly. We cannot provide any assurances that third-party patents do not exist which might be enforced against our future products, resulting in either an injunction prohibiting our sales, or, with respect to our sales, an obligation on our part to pay royalties and/or other forms of compensation to third parties.

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

Competitors may infringe our patents or the patents of our licensors. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that a patent of ours or our licensors 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 proceedings could put one or more of our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing.

Our defense in a litigation may fail and, even if successful, may result in substantial costs and distract our management and other employees. We may not be able to prevent, alone or with our licensors, misappropriation of our intellectual property rights, particularly in countries where the laws may not protect those rights as fully as in the United States.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of our common stock.

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

We employ individuals who were previously employed at other biotechnology or pharmaceutical companies. We may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed confidential information of our employees' former employers or other third parties. We may also be subject to claims that former employers or other third parties have an ownership interest in our patents. Litigation may be necessary to defend against these claims. There is no guarantee of success in defending these claims, and if we are successful, litigation could result in substantial cost and be a distraction to our management and other employees.

RISKS RELATED TO COMMERCIALIZATION OF PRODUCT CANDIDATES

The commercial success of our programs that are part of our collaboration agreements with Sanofi or others will depend in large part on the development and marketing efforts of our collaboration partners. If our collaboration partners are unable or unwilling to perform in accordance with the terms of our agreements, our potential to generate future revenue from these programs would be significantly reduced and our business would be materially and adversely harmed.

In November 2018, we and Sanofi agreed to transition further development activities of our miR-21 programs, including our RG-012 program, to Sanofi. The transition activities were completed in the second quarter of 2019. As a result, we have no influence and/or control over their approaches to development and commercialization of our miR-21 programs. If Sanofi or any potential future collaboration partners do not perform in the manner that we expect or fail to fulfill their responsibilities in a timely manner, or at all, the clinical development, regulatory approval and commercialization efforts related to product

candidates we have licensed to such collaboration partners could be delayed or terminated. If we terminate any of our collaborations or any program thereunder due to a material breach by Sanofi, and except in the case of RG-012, we have the right to assume the responsibility at our own expense for the development of the applicable *micro*RNA product candidates. Assuming sole responsibility for further development will increase our expenditures and may mean we will need to limit the size and scope of one or more of our programs, seek additional funding and/or choose to stop work altogether on one or more of the affected product candidates. This could result in a limited potential to generate future revenue from such *micro*RNA product candidates and our business could be materially and adversely affected. Further, under certain circumstances, we may owe Sanofi royalties on any product candidate that we may successfully commercialize.

We face significant competition from other biotechnology and pharmaceutical companies and our operating results will suffer if we fail to compete effectively.

The biotechnology and pharmaceutical industries are intensely competitive. We have competitors both in the United States and internationally, including major multinational pharmaceutical companies, biotechnology companies and universities and other research institutions. Our competitors may have substantially greater financial, technical and other resources, such as larger research and development staff and experienced marketing and manufacturing organizations. Additional mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated in our competitors. Competition may increase further as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in these industries. Our competitors may succeed in developing, acquiring or licensing on an exclusive basis, drug products that are more effective or less costly than any product candidate that we may develop.

Most of our programs are targeted toward indications for which there are approved products on the market or product candidates in clinical development. We will face competition from other drugs currently approved or that will be approved in the future for the same therapeutic indications. Our ability to compete successfully will depend largely on our ability to leverage our experience in drug discovery and development to:

- discover and develop therapeutics that are superior to other products in the market;
- attract qualified scientific, product development and commercial personnel;
- obtain patent and/or other proprietary protection for our *micro*RNA product platform and future product candidates;
- obtain required regulatory approvals; and
- successfully collaborate with pharmaceutical companies in the discovery, development and commercialization of new therapeutics.

The availability of our competitors' products could limit the demand, and the price we are able to charge, for any products that we may develop and commercialize. We will not achieve our business plan if the acceptance of any of these products is inhibited by price competition or the reluctance of physicians to switch from existing drug products to our products, or if physicians switch to other new drug products or choose to reserve our future products for use in limited circumstances. The inability to compete with existing or subsequently introduced drug products would have a material adverse impact on our business, financial condition and prospects.

Established pharmaceutical companies may invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could make our product candidates less competitive. In addition, any new product that competes with an approved product must demonstrate compelling advantages in efficacy, convenience, tolerability and safety in order to overcome price competition and to be commercially successful. Accordingly, our competitors may succeed in obtaining patent protection, receiving FDA approval or discovering, developing and commercializing product candidates before we do, which would have a material adverse impact on our business.

The commercial success of our product candidates will depend upon the acceptance of these product candidates by the medical community, including physicians, patients and healthcare payors.

The degree of market acceptance of any product candidates will depend on a number of factors, including:

- demonstration of clinical safety and efficacy compared to other products;
- the relative convenience, ease of administration and acceptance by physicians, patients and healthcare payors;
- the prevalence and severity of any AEs;

- limitations or warnings contained in the FDA-approved label for such products;
- availability of alternative treatments;
- pricing and cost-effectiveness;
- the effectiveness of our or any collaborators' sales and marketing strategies;
- our ability to obtain hospital formulary approval;
- our ability to obtain and maintain sufficient third party coverage and adequate reimbursement; and
- the willingness of patients to pay out-of-pocket in the absence of third party coverage.

Unless other formulations are developed in the future, we expect our compounds to be formulated in an injectable form. Injectable medications may be disfavored by patients or their physicians in the event drugs which are easy to administer, such as oral medications, are available. If a product is approved, but does not achieve an adequate level of acceptance by physicians, patients and healthcare payors, we may not generate sufficient revenues from such product and we may not become or remain profitable. For example, several new antivirals and antiviral combinations have been approved for the treatment of the HCV since we commenced our HCV program. Such increased competition may decrease any future potential revenue for future product candidates due to increasing pressure for lower pricing and higher discounts in the commercialization of our product.

If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell our product candidates, we may be unable to generate any revenues.

We currently do not have an organization for the sales, marketing and distribution of pharmaceutical products and the cost of establishing and maintaining such an organization may exceed the cost-effectiveness of doing so. In order to market any products that may be approved, we must build our sales, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services. For example, in order to exercise our co-promotion rights with Sanofi with respect to our miR-221/222 program, we would need to build our sales, marketing, managerial and other non-technical capabilities in order to effectively carry out sales or co-promotion activities with respect to any approved products that are developed through these programs. With respect to certain of our current programs as well as future programs, we may rely completely on a collaboration partner for sales and marketing. In addition, we intend to enter into collaborations with third parties to commercialize other product candidates, including in markets outside of the United States or for other large markets that are beyond our resources. Although we intend to establish a sales organization if we are able to obtain approval to market any product candidates for niche markets in the United States, we will also consider the option to enter into collaborations for future product candidates in the United States if commercialization requirements exceed our available resources. This will reduce the revenue generated from the sales of these products.

Our current and any future collaboration partners may not dedicate sufficient resources to the commercialization of our product candidates or may otherwise fail in their commercialization due to factors beyond our control. If we are unable to establish effective collaborations to enable the sale of our product candidates to healthcare professionals and in geographical regions, including the United States, that will not be covered by our own marketing and sales force, or if our potential future collaboration partners do not successfully commercialize the product candidates, our ability to generate revenues from product sales will be adversely affected.

If we are unable to establish adequate sales, marketing and distribution capabilities, whether independently or with third parties, we may not be able to generate sufficient product revenue and may not become profitable. We will be competing with many companies that currently have extensive and well-funded marketing and sales operations. Without an internal team or the support of a third party to perform marketing and sales functions, we may be unable to compete successfully against these more established companies.

If we obtain approval to commercialize any approved products outside of the United States, a variety of risks associated with international operations could materially adversely affect our business.

If any product candidates that we develop are approved for commercialization, we may also enter into agreements with third parties to market them on a worldwide basis or in more limited geographical regions. We expect that we will be subject to additional risks related to entering into international business relationships, including:

- different regulatory requirements for drug approvals in foreign countries;
- different payor reimbursement regimes, governmental payors or patient self-pay systems and price controls;

- reduced protection for intellectual property rights;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- foreign taxes, including withholding of payroll taxes;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenues, and other obligations incident to doing business in another country;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geopolitical actions, including war and terrorism, natural disasters, including earthquakes, typhoons, floods and fires, public health pandemics or epidemics or other business interruptions, including, for example, the COVID-19 pandemic

Coverage and adequate reimbursement may not be available for our product candidates, which could make it difficult for us to sell products profitably.

Market acceptance and sales of any product candidates that we develop will depend on coverage and reimbursement policies and may be affected by future healthcare reform measures. Government authorities and third party payors, such as private health insurers, government payors and health maintenance organizations, decide which drugs they will pay for and establish reimbursement levels. We cannot be sure that coverage and adequate reimbursement will be available for any future product candidates. Also, inadequate reimbursement amounts may reduce the demand for, or the price of, our future products. Further, one payor's determination to provide coverage for a product does not assure that other payors will also provide coverage for the product. If reimbursement is not available, or is available only at limited levels, we may not be able to successfully commercialize product candidates that we develop.

In addition, we cannot be certain if and when we will obtain formulary approval to allow us to sell any products that we may develop and commercialize into our target markets. Obtaining formulary approval from hospitals and from payors can be an expensive and time-consuming process. Failure to obtain timely formulary approval will limit our commercial success.

There have been a number of legislative and regulatory proposals to change the healthcare system in the United States and in some foreign jurisdictions that could affect our ability to sell products profitably. These legislative and/or regulatory changes may negatively impact the reimbursement for drug products, following approval. The availability of numerous generic treatments may also substantially reduce the likelihood of reimbursement for our future products. The potential application of user fees to generic drug products may expedite the approval of additional generic drug treatments. We expect to experience pricing pressures in connection with the sale of any products that we develop, due to the trend toward managed healthcare, the increasing influence of health maintenance organizations and additional legislative changes. If we fail to successfully secure and maintain reimbursement coverage for our future products or are significantly delayed in doing so, we will have difficulty achieving market acceptance of our future products and our business will be harmed.

In addition, in some non-U.S. jurisdictions, 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 tend to be priced significantly lower.

RISKS RELATED TO OUR BUSINESS OPERATIONS AND INDUSTRY

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

We are highly dependent on principal members of our executive team, the loss of whose services may adversely impact the achievement of our objectives. While we have entered into employment agreements with each of our executive officers, any of them could leave our employment at any time, as all of our employees are "at will" employees. Recruiting and retaining other qualified employees for our business, including scientific and technical personnel, will also be critical to our success. There is currently a shortage of skilled executives in our industry, which is likely to continue. As a result, competition for skilled personnel is intense and the turnover rate can be high. We may not be able to attract and retain personnel on acceptable terms given the competition among numerous pharmaceutical companies for individuals with similar skill sets. In addition, failure to succeed in preclinical studies and clinical trials may make it more challenging to recruit and retain qualified personnel. The inability to recruit or loss of the services of any executive or key employee might impede the progress of our research, development and commercialization objectives.

We may need to expand our organization and may experience difficulties in managing this growth, which could disrupt our operations.

As of December 31, 2020, we had 24 employees, all of which were full-time employees. In the future, we may need to expand our organization.

Future growth would impose significant additional responsibilities on our management, including the need to identify, recruit, maintain, motivate and integrate additional employees, consultants and contractors. Also, our management may need to divert a disproportionate amount of its attention away from our day-to-day activities and devote a substantial amount of time to managing these growth activities. We may not be able to effectively manage the expansion of our operations, which may result in weaknesses in our infrastructure, give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. Our expected growth could require significant capital expenditures and may divert financial resources from other projects, such as the development of additional product candidates. Moreover, if our management is unable to effectively manage our growth, our expenses may increase more than expected, our ability to generate and/or grow revenues could be reduced, and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize product candidates and compete effectively will depend, in part, on our ability to effectively manage any future growth.

Our employees may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements and insider trading.

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include intentional failures to comply with the regulations of the FDA and non-U.S. regulators, provide accurate information to the FDA and non-U.S. regulators, comply with healthcare fraud and abuse laws and regulations in the United States and abroad, report financial information or data accurately or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and cause serious harm to our reputation. We have adopted a code of conduct, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant civil, criminal and administrative sanctions.

We may undertake internal restructuring activities that could result in disruptions to our business or otherwise materially harm our results of operations or financial condition.

From time to time we may undertake internal restructuring activities as we continue to evaluate and attempt to optimize our cost and operating structure in light of developments in our business strategy and long-term operating plans. For example, we initiated a corporate restructuring in May 2017 and in July 2018, each of which resulted in a reduction in our workforce. Any such restructuring activities may result in write-offs or other restructuring charges. There can be no assurance that any restructuring activities that we have undertaken or undertake in the future will achieve the cost savings, operating efficiencies or other benefits that we may initially expect. Restructuring activities may also result in a loss of continuity, accumulated knowledge and inefficiency during transitional periods and thereafter. In addition, internal restructurings can require a significant amount of time and focus from management and other employees, which may divert attention from commercial operations. If any internal restructuring activities we have undertaken or undertake in the future fail to achieve some or all of

the expected benefits therefrom, our business, results of operations and financial condition could be materially and adversely affected.

Certain current and future relationships with customers and third party payors as well as certain of our business operations may be subject, directly or indirectly, to federal and state healthcare fraud and abuse laws, false claims laws and health information privacy and security laws. If we are unable to comply, or have not fully complied, with such laws, we could face significant penalties, including criminal sanctions, civil penalties, contractual damages, reputational harm and diminished profits and future earnings.

Our operations may be directly, or indirectly through our relationships with customers, third party payors, healthcare providers, and others subject to various federal and state fraud and abuse laws, including, without limitation, the federal Anti-Kickback Statute and the federal False Claims Act. These laws may impact, among other things, our proposed sales, marketing and education programs. In addition, we may be subject to patient privacy regulation by the federal government and by the U.S. states and foreign jurisdictions in which we conduct our business. The healthcare laws and regulations that may affect our ability to operate include:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons and entities from knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, to induce, or in return for, either the referral of an individual, or the purchase or recommendation of an item or service for which payment may be made under a federal healthcare program, such as the Medicare and Medicaid programs;
- federal civil and criminal false claims laws, including the civil False Claims Act, and civil monetary penalty laws, which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment to the federal government, including Medicare or Medicaid, that are false or fraudulent;
- the federal Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), which created additional federal criminal statutes that prohibit, among other things, executing a scheme to defraud any healthcare benefit program and making false statements relating to healthcare matters;
- HIPAA, as amended by HITECH, and their implementing regulations, which imposes certain requirements on certain types of individuals and entities relating to the privacy, security and transmission of individually identifiable health information;
- the European General Data Protection Regulation ("GDPR") adopted by the European Union ("EU") in May 2018, which contains provisions specifically directed at the processing of health information, higher sanctions and extra-territoriality measures intended to bring non-EU companies under the regulation; we anticipate that over time we may expand our business operations to include additional operations in the EU, including potentially conducting preclinical and clinical trials and, with such expansion, we would be subject to increased governmental regulation in the EU countries in which we might operate, including the GDPR;
- California recently enacted legislation that has been dubbed the first “GDPR-like” law in the United States. Known as the California Consumer Privacy Act ("CCPA"), it has created new individual privacy rights for consumers (as that word is broadly defined in the law) and placed increased privacy and security obligations on entities handling personal data of consumers or households. The CCPA, which went into effect on January 1, 2020, requires covered companies to provide new disclosures to California consumers, provide such consumers new ways to opt-out of certain sales of personal information, and allows for a new cause of action for data breaches. The CCPA may impact (possibly significantly) our business activities and exemplifies the vulnerability of our business to not only cyber threats but also the evolving regulatory environment related to personal data and protected health information;
- the federal Physician Payments Sunshine Act, which requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children’s Health Insurance Program, with specific exceptions, to report annually to the Centers for Medicare & Medicaid Services ("CMS") information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), and teaching hospitals, and further requires applicable manufacturers and applicable group purchasing organizations to report annually to CMS ownership and investment interests held by physicians and their immediate family members. Beginning in 2022, applicable manufacturers also will be required to report such information regarding its payment and other transfers of value to physician assistants, nurse practitioners, clinical nurse specialists, anesthesiologist assistants, certified registered nurse anesthetists and certified nurse midwives during the previous year; and

- state and foreign law equivalents of each of the above federal laws, such as: anti-kickback and false claims laws which may apply to items or services reimbursed by any third party payor, including commercial insurers; state 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; state 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; state laws that require the reporting of information related to drug pricing; state and local laws that require the registration of pharmaceutical sales representatives; 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 may not have the same effect, thus complicating compliance efforts.

If our operations are found to be in violation of any of the laws described above or any other governmental regulations that apply to us, we may be subject to penalties, including, without limitation, significant civil, criminal and administrative penalties, damages, fines, possible exclusion from Medicare, Medicaid and other government healthcare programs, disgorgement, imprisonment, additional reporting requirements and/or oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws, contractual damages, reputational harm, diminished profits and future earnings, and curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

Recent and future healthcare legislation may further impact our business operations.

The United States and some foreign jurisdictions are considering or have enacted a number of legislative and regulatory proposals to change the healthcare system in ways that could affect our ability to sell our products profitably. Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality or expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives.

For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, the "ACA") was passed and includes measures to significantly change the way healthcare is financed by both governmental and private insurers. There remain judicial and Congressional challenges to certain aspects of the ACA, as well as efforts by the Trump administration to repeal or replace certain aspects of the ACA. For example, President Trump signed Executive Orders and other directives designed to delay the implementation of certain provisions of the ACA or otherwise circumvent some of the requirements for health insurance mandated by the ACA. Congress has also considered legislation that would repeal or repeal and replace all or part of the ACA. While Congress has not passed comprehensive repeal legislation, bills affecting the implementation of certain taxes under the ACA have been signed into law. The Tax Act includes a provision which repealed, effective January 1, 2019, 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 that is commonly referred to as the "individual mandate". In addition, the 2020 federal spending package permanently eliminated, effective January 1, 2020, the ACA-mandated "Cadillac" tax on high-cost employer-sponsored health coverage and medical device tax and, effective January 1, 2021, also eliminated the health insurer tax. On December 14, 2018, a Texas U.S. District Court Judge ruled that the ACA is unconstitutional in its entirety because the "individual mandate" was repealed by Congress as part of the Tax Act. Additionally, on December 18, 2019, the U.S. Court of Appeals for the 5th Circuit upheld the District Court ruling that the individual mandate was unconstitutional and remanded the case back to the District Court to determine whether the remaining provisions of the ACA are invalid as well. The U.S. Supreme Court is currently reviewing this case, but it is unknown when a decision will be reached. Although the U.S. Supreme Court has yet ruled on the constitutionality of the ACA, on January 28, 2021, President Biden issued an executive order to initiate a special enrollment period from February 15, 2021 through May 15, 2021 for purposes of obtaining health insurance coverage through the ACA marketplace. The executive order also instructs certain governmental agencies to review and reconsider their existing policies and rules that limit access to healthcare, including among others, reexamining Medicaid demonstration projects and waiver programs that include work requirements, and policies that create unnecessary barriers to obtaining access to health insurance coverage through Medicaid or the ACA. It is unclear how the Supreme Court ruling, other such litigation, and healthcare reform measures of the Biden administration will impact the ACA and our business.

Other legislative changes have been proposed and adopted since the ACA was enacted. These changes include aggregate reductions to Medicare payments to providers of 2% per fiscal year pursuant to the Budget Control Act of 2011, which began in 2013 and, due to subsequent legislative amendments to the statute, will remain in effect through 2030 unless additional Congressional action is taken. However, the Medicare sequester reductions under the Budget Control Act of 2011 will be suspended from May 1, 2020 through December 31, 2020 due to the COVID-19 pandemic. The American Taxpayer Relief Act of 2012, among other things, further reduced Medicare payments to several providers, including hospitals and cancer treatment

centers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

Further, there has been heightened governmental scrutiny in the United States of pharmaceutical pricing practices in light of the rising cost of prescription drugs and biologics. Such scrutiny has resulted in several recent Congressional inquiries and federal and state legislative activity designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for products. For example, at the federal level, the Trump administration used several means to propose or implement drug pricing reform, including through federal budget proposals, executive orders and policy initiatives. For example, on July 24, 2020 and September 13, 2020, President Trump announced several executive orders related to prescription drug pricing that attempt to implement several of the Trump administration proposals. The FDA also recently released a final rule, effective November 30, 2020, implementing a portion of the importation executive order providing guidance for states to build and submit importation plans for drugs from Canada. Further, on November 20, 2020, HHS finalized a regulation removing safe harbor protection for price reductions from pharmaceutical manufacturers to plan sponsors under Part D, either directly or through pharmacy benefit managers, unless the price reduction is required by law. The implementation of the rule has been delayed by the Biden administration from January 1, 2022 to January 1, 2023 in response to ongoing litigation. The rule also creates a new safe harbor for price reductions reflected at the point-of-sale, as well as a new safe harbor for certain fixed fee arrangements between pharmacy benefit managers and manufacturers, the implementation of which have also been delayed pending review by the Biden administration until March 22, 2021. On November 20, 2020, CMS issued an interim final rule implementing President Trump's Most Favored Nation executive order, which would tie Medicare Part B payments for certain physician-administered drugs to the lowest price paid in other economically advanced countries, effective January 1, 2021. On December 28, 2020, the United States District Court in Northern California issued a nationwide preliminary injunction against implementation of the interim final rule. However, it is unclear whether the Biden administration will work to reverse these measures or pursue similar policy initiatives. At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, to encourage importation from other countries and bulk purchasing.

We expect that healthcare reform measures that may be adopted in the future may result in more rigorous coverage criteria and lower reimbursement, and in additional downward pressure on the price that we receive for any approved product. Any reduction in reimbursement from Medicare or other government-funded programs may result in a similar reduction in payments from private payors.

In addition, it is possible that additional governmental action is taken in response to the COVID-19 pandemic.

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 that we may successfully develop and for which we may obtain regulatory approval and may affect our overall financial condition and ability to develop product candidates.

We face potential product liability, and, if successful claims are brought against us, we may incur substantial liability and costs.

The use of our product candidates in clinical trials and the sale of any products for which we obtain marketing approval exposes us to the risk of product liability claims. Product liability claims might be brought against us by consumers, healthcare providers, pharmaceutical companies or others selling or otherwise coming into contact with our products. Certain oligonucleotide therapeutics have shown injection site reactions and pro-inflammatory effects and may also lead to impairment of kidney or liver function. There is a risk that our current and future product candidates may induce similar adverse events. If we cannot successfully defend against product liability claims, we could incur substantial liability and costs. In addition, regardless of merit or eventual outcome, product liability claims may result in:

- impairment of our business reputation;
- withdrawal of clinical trial participants;
- costs due to related litigation;
- distraction of management's attention from our primary business;
- substantial monetary awards to patients or other claimants;
- the inability to commercialize our product candidates; and
- decreased demand for our product candidates, if approved for commercial sale.

We maintain product liability insurance relating to the use of our therapeutics in clinical trials. However, such insurance coverage may not be sufficient to reimburse us for any expenses or losses we may suffer. Moreover, insurance coverage is becoming increasingly expensive and in the future we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses due to liability. If and when we obtain marketing approval for product candidates, we intend to expand our insurance coverage to include the sale of commercial products; however, we may be unable to obtain product liability insurance on commercially reasonable terms or in adequate amounts. On occasion, large judgments have been awarded in class action lawsuits based on drugs that had unanticipated adverse effects. A successful product liability claim or series of claims brought against us could cause our stock price to decline and, if judgments exceed our insurance coverage, could adversely affect our results of operations and business.

Cybersecurity risks and the failure to maintain the confidentiality, integrity, and availability of our computer hardware, software, and Internet applications and related tools and functions could result in damage to our reputation and/or subject us to costs, fines or lawsuits.

Our business requires manipulating, analyzing and storing large amounts of data. In addition, we rely on a global enterprise software system to operate and manage our business. We also maintain personally identifiable information about our employees. Our business therefore depends on the continuous, effective, reliable, and secure operation of our computer hardware, software, networks, Internet servers, and related infrastructure. To the extent that our hardware or software malfunctions or access to our data by internal research personnel is interrupted, our business could suffer. The integrity and protection of our employee and company data is critical to our business and employees have a high expectation that we will adequately protect their personal information. The regulatory environment governing information, security and privacy laws is increasingly demanding and continues to evolve. Maintaining compliance with applicable security and privacy regulations may increase our operating costs. Although our computer and communications hardware is protected through physical and software safeguards, it is still vulnerable to fire, storm, flood, power loss, earthquakes, public health pandemics or epidemics (including, for example, the COVID-19 pandemic), terrorism, war, telecommunications failures, physical or software break-ins, software viruses, and similar events. These events could lead to the unauthorized access, disclosure and use of non-public information. The techniques used by criminal elements to attack computer systems are sophisticated, change frequently and may originate from less regulated and remote areas of the world. As a result, we may not be able to address these techniques proactively or implement adequate preventative measures. If our computer systems are compromised, we could be subject to fines, damages, litigation and enforcement actions, and we could lose trade secrets, the occurrence of which could harm our business. In addition, any sustained disruption in internet access provided by other companies could harm our business.

Changes in funding for FDA, the SEC and other government agencies could hinder their ability to hire and retain 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 functions on which the operation of our business may rely, which could negatively impact our business.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to hire and retain key personnel and accept payment of user fees, and statutory, regulatory, and policy changes. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of the SEC and 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 agencies may also slow the time necessary for new drugs to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years, 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, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Further, future government shutdowns could impact our ability to access the public markets and obtain necessary capital in order to properly capitalize and continue our operations.

The withdrawal of the United Kingdom from the European Union, commonly referred to as "Brexit," may adversely impact our ability to obtain regulatory approvals of our product candidates in the European Union, result in restrictions or imposition of taxes and duties for importing our product candidates into the European Union, and may require us to incur additional expenses in order to develop, manufacture and commercialize our product candidates in the European Union.

Following the result of a referendum in 2016, the United Kingdom left the European Union on January 31, 2020, commonly referred to as "Brexit." Pursuant to the formal withdrawal arrangements agreed between the United Kingdom and the European Union, the United Kingdom was subject to a transition period that ended December 31, 2020, or the Transition Period, during which EU rules continued to apply. A trade and cooperation agreement, or the Trade and Cooperation Agreement, that outlines the future trading relationship between the United Kingdom and the European Union was agreed in December 2020.

Since a significant proportion of the regulatory framework in the United Kingdom applicable to our business and our product candidates is derived from EU directives and regulations, Brexit has had, and may continue to have, a material impact upon the regulatory regime with respect to the development, manufacture, importation, approval and commercialization of our product candidates in the United Kingdom or the European Union. For example, Great Britain is no longer covered by the centralized procedures for obtaining EU-wide marketing authorization from the EMA and a separate marketing authorization will be required to market our product candidates in Great Britain. It is currently unclear whether the Medicines & Healthcare products Regulatory Agency ("MHRA"), in the U.K. is sufficiently prepared to handle the increased volume of marketing authorization applications that it is likely to receive. Any delay in obtaining, or an inability to obtain, any marketing approvals, as a result of Brexit or otherwise, would prevent us from commercializing our product candidates in the United Kingdom or the European Union and restrict our ability to generate revenue and achieve and sustain profitability.
While the Trade and Cooperation Agreement provides for the tariff-free trade of medicinal products between the UK and the EU there may be additional non-tariff costs to such trade which did not exist prior to the end of the Transition Period. Further, should the UK diverge from the EU from a regulatory perspective in relation to medicinal products, tariffs could be put into place in the future. We could therefore, both now and in the future, face significant additional expenses (when compared to the position prior to the end of the Transition Period) to operate our business, which could significantly and materially harm or delay our ability to generate revenues or achieve profitability of our business. Any further changes in international trade, tariff and import/export regulations as a result of Brexit or otherwise may impose unexpected duty costs or other non-tariff barriers on us. These developments, or the perception that any of them could occur, may significantly reduce global trade and, in particular, trade between the impacted nations and the UK It is also possible that Brexit may negatively affect our ability to attract and retain employees, particularly those from the EU These developments, or the perception that any of them could occur, may significantly reduce global trade and, in particular, trade between the impacted nations and the United Kingdom.

Our business and operations might be disrupted or adversely affected by catastrophic events.

Our headquarters are located in San Diego County. We are vulnerable to natural disasters such as earthquakes and wild fires, as well as other events that could disrupt our operations. We do not carry insurance for earthquakes or other natural disasters and we may not carry sufficient business interruption insurance to compensate us for losses that may occur. Any losses or damages we incur could have a material adverse effect on our business operations. In addition, natural disasters or other catastrophic events in various parts of the world, including interruptions in the supply of natural resources, political and governmental changes, disruption in transportation networks or delivery services, severe weather conditions, wildfires and other fires, explosions, actions of animal rights activists, terrorist attacks, earthquakes, wars and public health issues (including, for example, the COVID-19 pandemic) could disrupt our operations or those of our collaborators, contractors and vendors or contribute to unfavorable economic or other conditions that could adversely impact us.

Our business could be adversely affected by the effects of health pandemics or epidemics, including the ongoing COVID-19 pandemic, in regions where we or third parties on which we rely have significant manufacturing facilities, concentrations of clinical trial sites or other business operations, or materially affect our operations globally, including at our headquarters in San Diego, which is currently subject to a state executive order, and at our clinical trial sites, as well as the business or operations of our manufacturers, CROs or other third parties with whom we conduct business.

Our business may be adversely affected by the effects of health pandemics or epidemics, including the COVID-19 pandemic, which was declared by the World Health Organization as a global pandemic, and is resulting in travel and other restrictions to reduce the spread of the disease, including a California executive order and several other state and local orders across the country, which, among other things, direct individuals to shelter at their places of residence, direct businesses and governmental agencies to cease non-essential operations at physical locations, prohibit certain non-essential gatherings, and order cessation of non-essential travel. As a result of these recent developments, we have implemented work-from-home policies for most of our employees. The effects of the state executive order, government-imposed quarantines and our work-from-home policies may negatively impact productivity, disrupt our business and delay our clinical programs and timelines, the magnitude of which will depend, in part, on the length and severity of the restrictions and other limitations on our ability to conduct our business in the ordinary course. These and similar, and perhaps more severe, disruptions in our operations could negatively impact our business, operating results and financial condition.

Quarantines, shelter-in-place and similar government orders, or the perception that such orders, shutdowns or other restrictions on the conduct of business operations could occur, related to COVID-19 or other infectious diseases could impact personnel at third-party manufacturing facilities in the United States and other countries, or the availability or cost of materials, which would disrupt our supply chain. For example, some of our CROs have delayed the commencement of preclinical studies due to shelter in place orders.

Beginning the week of March 16, 2020, substantially all of our workforce began working from home either all or substantially all of the time, except for a limited number of staff in our research and development laboratory. The effects of the stay-at-home orders and our work-from-home policies may negatively impact productivity, disrupt our business and delay our development programs and regulatory timelines, the magnitude of which will depend, in part, on the length and severity of the restrictions and other limitations on our ability to conduct our business in the ordinary course.

In addition, our clinical trials are likely to be affected by the ongoing COVID-19 pandemic. Site initiation and patient enrollment may be delayed due to prioritization of hospital resources toward the COVID-19 pandemic, and some patients may not be able or willing to comply with clinical trial protocols if quarantines impede patient movement or interrupt healthcare services. Similarly, our ability to recruit and retain patients and principal investigators and site staff who, as healthcare providers, may have heightened exposure to COVID-19, could be delayed or disrupted, which would adversely impact our clinical trial operations.

The spread of COVID-19, which has caused a broad impact globally, may materially affect us economically. While the potential economic impact brought by, and the duration of, the COVID-19 pandemic, may be difficult to assess or predict, it is currently resulting in significant disruption of global financial markets. This disruption, if sustained or recurrent, could make it more difficult for us to access capital or to comply with the covenants contained in the Loan Agreement, which could negatively affect our liquidity. In addition, a recession or market correction resulting from the spread of COVID-19 could materially affect our business and the value of our common stock.

The COVID-19 pandemic continues to rapidly evolve. The ultimate impact of the COVID-19 pandemic or a similar health pandemic or epidemic is highly uncertain and subject to change. We do not yet know the full extent of potential delays or impacts on our business, our clinical trials, healthcare systems or the global economy as a whole. These effects could have a material impact on our operations, and we will continue to monitor the COVID-19 situation closely.

RISKS RELATED TO OUR COMMON STOCK

The market price of our common stock may be highly volatile.

Our stock price has historically been, and is expected to continue to be, highly volatile. Our stock price could be subject to wide fluctuations in response to a variety of factors, including the following:

- adverse results or delays in preclinical studies or clinical trials;
- inability to obtain additional funding;
- any delay in filing an IND or NDA for any of our product candidates and any adverse development or perceived adverse development with respect to the FDA's review of that IND or NDA;
- failure to maintain our existing collaborations or enter into new collaborations;
- failure of our collaboration partners to elect to develop and commercialize product candidates under our collaboration agreements or the termination of any programs under our collaboration agreements;
- failure by us or our licensors and collaboration partners to prosecute, maintain or enforce our intellectual property rights;
- failure to successfully develop and commercialize our product candidates;
- changes in laws or regulations applicable to our preclinical and clinical development activities, product candidates or future products;
- inability to obtain adequate product supply for our product candidates or the inability to do so at acceptable prices;
- adverse regulatory decisions;
- changes in the structure of healthcare payment systems;
- introduction of new products, services or technologies by our competitors;

- failure to meet or exceed financial projections we may provide to the public;
- failure to meet or exceed the estimates and projections of the investment community;
- the perception of the pharmaceutical industry by the public, legislatures, regulators and the investment community;
- disruptions caused by man-made or natural disasters, public health pandemics or epidemics or other business interruptions, including, for example, the COVID-19 pandemic;
- announcements of significant acquisitions, strategic partnerships, joint ventures or capital commitments by us, our collaboration partners or our competitors;
- disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- additions or departures of key scientific or management personnel;
- significant lawsuits, including patent or stockholder litigation;
- changes in the market valuations of similar companies;
- sales of our common stock by us or our stockholders in the future; and
- trading volume of our common stock.

In addition, companies trading in the stock market in general, and The Nasdaq Capital Market in particular, have 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.

The requirements of being a publicly traded company may strain our resources and divert management's attention.

As a publicly traded company, we have incurred, and will continue to incur, significant legal, accounting and other expenses. In addition, the Sarbanes-Oxley Act, as well as rules subsequently implemented by the SEC and The Nasdaq Capital Market have imposed various requirements on public companies. In July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act") was enacted. Stockholder activism, the current political environment and the current high level of government intervention and regulatory reform may lead to substantial new regulations and disclosure obligations, which may lead to additional compliance costs and impact the manner in which we operate our business in ways we cannot currently anticipate. Our management and other personnel have devoted and will need to continue to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly.

Changes or modifications in financial accounting standards, including those related to revenue recognition, may harm our results of operations.

From time to time, the Financial Accounting Standards Board ("FASB"), either alone or jointly with other organizations, promulgates new accounting principles that could have an adverse impact on our financial position, results of operations or reported cash flows.

Any difficulties in adopting or implementing any new accounting standard could result in our failure to meet our financial reporting obligations, which could result in regulatory discipline and harm investors' confidence in us. Finally, if we were to change our critical accounting estimates, including those related to the recognition of collaboration revenue, our operating results could be significantly affected.

Sales of a substantial number of shares of our common stock in the public market by our existing stockholders could cause our stock price to fall.

Substantially all of our outstanding shares of common stock are available for public sale, subject in some cases to volume and other limitations. If our existing stockholders sell substantial amounts of our common stock in the public market, or the market perceives that such sales may occur, the trading price of our common stock could decline. In addition, shares of common stock that are either subject to outstanding options or reserved for future issuance under our employee benefit plans are or may become eligible for sale in the public market to the extent permitted by the provisions of various vesting schedules and Rule 144 under the Securities Act. If these additional shares of common stock are sold, or if it is perceived that they will be sold, in the public market, the trading price of our common stock could decline.

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 our stockholders and could cause our stock price to fall.

We expect that significant additional capital will be needed in the future to continue our planned operations. To the extent we raise additional capital by issuing equity securities, our stockholders may experience substantial dilution. We may sell common stock, preferred stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time, any of which may result in material dilution to investors and/or our existing stockholders. New investors could also be issued securities with rights superior to those of our existing stockholders. As of December 31 2020, warrants to exercise an aggregate of 66.0 million shares of our common stock were outstanding at a weighted-average exercise price per share of $0.78. In addition, as of December 31, 2020, an aggregate of 19.3 million shares were issuable upon conversion of shares of our Class A-1, Class A-2 and Class A-3 preferred stock at the option of the holder, subject to beneficial ownership limitations.

Pursuant to our 2019 Equity Incentive Plan (the "2019 Plan"), our management is authorized to grant stock options and other equity-based awards to our employees, directors and consultants. In addition, the number of shares available for future grant under the 2019 Plan will automatically increase on January 1st each year commencing on January 1, 2021 through January 1, 2029, by 5% of all shares of our capital stock outstanding as of December 31st of the preceding calendar year, subject to the ability of our board of directors to take action to reduce the size of the increase in any given year. Furthermore, we may grant or provide for the grant of rights to purchase shares of our common stock pursuant to our 2012 Employee Stock Purchase Plan ("ESPP"). The number of shares of our common stock reserved for issuance under the ESPP will automatically increase on January 1 of each calendar year by the lessor of 1% of the total number of shares of our common stock outstanding on December 31st of the preceding calendar year and 41,666 shares, subject to the ability of our board of directors to take action to reduce the size of the increase in any given year. Currently, we plan to register the increased number of shares available for issuance under the 2019 Plan and the ESPP each year.

We may be unable to comply with the applicable continued listing requirements of The Nasdaq Capital Market.

Our common stock is currently listed on The Nasdaq Capital Market. In order to maintain the listing of our common stock on The Nasdaq Capital Market, we must satisfy minimum financial and other continued listing requirements and standards, including a minimum closing bid price requirement for our common stock of $1.00 per share and a minimum stockholders' equity requirement of $2.5 million.

We have failed to comply with Nasdaq's minimum bid price requirement and minimum stockholders' equity requirement on multiple other occasions during the last several years, although we have regained compliance in such previous occasions. There can be no assurance that we will continue to maintain compliance with the $1.00 minimum bid price requirement or the minimum stockholders' equity requirement, or continuously satisfy Nasdaq's other continued listing standards in the future. In the future, if we are ultimately not able to maintain or timely regain compliance with Nasdaq's continued listing requirements, our common stock will be subject to delisting. In the event that our common stock is delisted from Nasdaq and is not eligible for quotation or listing on another market or exchange, trading of our common stock could be conducted only in the over-the-counter market or on an electronic bulletin board established for unlisted securities such as the Pink Sheets or the OTC Bulletin Board. In such event, it could become more difficult to dispose of, or obtain accurate price quotations for our common stock and there would likely also be a reduction in our coverage by securities analysts and the news media, which could cause the price of our common stock to decline further. In addition, the delisting of our common stock from The Nasdaq Capital Market would constitute an event of default under our Loan Agreement with Oxford.

We may be the subject of putative securities class action litigation in the future.

In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because pharmaceutical companies have experienced significant stock price volatility in recent years. On January 31, 2017, a putative class action complaint was filed in the United States District Court for the Southern District of California against us, Paul C. Grint (our former Chief Executive Officer) and Joseph P. Hagan (then our Chief Operating Officer and currently our President and Chief Executive Officer). The complaint includes claims asserted, on behalf of certain purchasers of our securities, under Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, as amended. In general, the complaint alleges that between January 21, 2016, and June 27, 2016, the defendants violated the federal securities laws by making materially false and misleading statements regarding our business and the prospects for RG-101, thereby artificially inflating the price of our securities. A second action has subsequently been filed making the same allegations but extending the period of alleged violations to January 27, 2017 and also naming our former Chief Research & Development Officer, Timothy M. Wright, as a defendant. These actions were consolidated and on December 22, 2017, lead plaintiffs filed a consolidated complaint against the Company, Dr. Grint, Mr. Hagan, and Michael Huang (our

former Vice President of Clinical Development). The consolidated complaint alleges that between February 17, 2016 and June 12, 2017, the Defendants violated Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, as amended, by making materially false and misleading statements regarding RG-101. The consolidated complaint seeks unspecified monetary damages and an award of attorneys' fees and costs. On February 6, 2018, defendants filed a motion to dismiss the consolidated complaint. On March 23, 2018, plaintiff filed their opposition to the motion and on April 24, 2018, defendants filed their response. On September 5, 2019, the court granted the defendants' motion to dismiss with leave to amend. The plaintiffs filed their amended complaint on October 1, 2019. Subsequent to the filing of the amended complaint, counsel for the parties engaged in negotiations to resolve the case. On November 4, 2019, the parties agreed in principle to settle the case for $0.9 million, with approximately $0.3 million to be paid by us and the balance to be paid by our D&O insurance carrier. On December 11, 2019, the parties entered into a stipulation and agreement of settlement, which was amended on February 6, 2020. On February 7, 2020, plaintiffs filed a motion for preliminary approval of the settlement. On May 27, 2020, the court entered an order preliminarily approving the settlement. On October 21, 2020, the court formally approved the settlement. On December 29, 2020, the court entered the final judgment and dismissed the action with prejudice. It is possible that additional lawsuits will be filed, or allegations made by stockholders, with respect to these same or other matters and also naming us and/or our officers and directors as defendants. While we carry liability insurance, there is no assurance that any losses we incur in connection with the current lawsuits or any future lawsuits will be covered or that coverage, if any, will be sufficient. In addition, the current lawsuits and similar future litigation could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

Changes in tax laws or regulations that are applied adversely to us or our customers may have a material adverse effect on our business, cash flow, financial condition or results of operations.

New income, sales, use or other tax laws, statutes, rules, regulations or ordinances could be enacted at any time, which could adversely affect our business operations and financial performance. Further, existing tax laws, statutes, rules, regulations or ordinances could be interpreted, changed, modified or applied adversely to us. For example, the Tax Act enacted many significant changes to the U.S. tax laws. Future guidance from the Internal Revenue Service and other tax authorities with respect to the Tax Act may affect us, and certain aspects of the Tax Act could be repealed or modified in future legislation. For example, the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") modified certain provisions of the Tax Act. In addition, it is uncertain if and to what extent various states will conform to the Tax Act, the CARES Act, or any newly enacted federal tax legislation. Changes in corporate tax rates, the realization of net deferred tax assets relating to our operations, the taxation of foreign earnings, and the deductibility of expenses under the Tax Act or future reform legislation could have a material impact on the value of our deferred tax assets, could result in significant one-time charges, and could increase our future U.S. tax expense.

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

As of December 31, 2020, we had net operating loss ("NOL") carryforwards for U.S. federal and California state tax purposes of $342.4 million and $289.2 million, respectively. A portion of the federal and California state NOL carryforwards will begin to expire, if not utilized, in 2030 and 2031, respectively. NOLs that expire unused will be unavailable to offset future income tax liabilities. Under the Tax Act, federal NOLs incurred in taxable years beginning after December 31, 2017, may be carried forward indefinitely, but the deductibility of such federal NOLs in tax years beginning after December 31, 2020 is limited to 80% of taxable income. It is uncertain if and to what extent various states will conform to the Tax Act or the CARES Act. In addition, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the "Code"), and corresponding provisions of state law, if a corporation undergoes an "ownership change," which is generally defined as a greater than 50% change (by value) in its equity ownership over a three-year period, the corporation's ability to use its pre-change NOL carryforwards and other pre-change tax attributes (such as research tax credits) to offset its post-change income and taxes may be limited. We have determined that we triggered an "ownership change" limitation at the completion of our initial public offering in October 2012 and in July 2015. The Company has not performed a Section 382 ownership-change analysis through December 31, 2020, and it is possible there may have been additional ownership changes. We may also experience ownership changes in the future as a result of subsequent shifts in our stock ownership, some of which may be outside of our control. As a result, if we earn net taxable income, our ability to use our pre-ownership change NOL carryforwards to offset U.S. federal taxable income will be subject to limitations, which could harm our future operating results by effectively increasing our future tax obligations. In addition, at the state level, there may be periods during which the use of NOLs is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed. For example, California imposed limits on the usability of California state net operating losses to offset taxable income in tax years beginning after 2019 and before 2023. As a result, if we earn net taxable income, we may be unable to use all or a material portion of our net operating loss carryforwards and other tax attributes, which could potentially result in increased future tax liability to us and adversely affect our future cash flows.

We do not intend to pay dividends on our common stock so any returns will be limited to the value of our stock.

We have never declared or paid any cash dividends on our common stock. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. In addition, our ability to pay cash dividends is currently prohibited by the terms of our secured debt, and any future debt financing arrangement may contain terms prohibiting or limiting the amount of dividends that may be declared or paid on our common stock. Any return to stockholders will therefore be limited to the appreciation of their stock.

Provisions in our amended and restated certificate of incorporation and bylaws, as well as provisions of Delaware law, could make it more difficult for a third party to acquire us or increase the cost of acquiring us, even if doing so would benefit our stockholders or remove our current management.

Some provisions of our charter documents and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our stockholders and may prevent attempts by our stockholders to replace or remove our current management. These provisions include:

- authorizing the issuance of “blank check” preferred stock, the terms of which may be established and shares of which may be issued without stockholder approval;
- prohibiting stockholder action by written consent, thereby requiring all stockholder actions to be taken at a meeting of our stockholders;
- eliminating the ability of stockholders to call a special meeting of stockholders;
- establishing the state of Delaware as the sole forum for certain legal actions against the Company, its officers and directors; and
- establishing advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted upon at stockholder meetings.

In addition, we are subject to 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 an interested stockholder for a period of three years following the date on which the stockholder became an interested stockholder, unless such transactions are approved by our board of directors. This provision could have the effect of delaying or preventing a change in control, whether or not it is desired by or beneficial to our stockholders. Further, other provisions of Delaware law may also discourage, delay or prevent someone from acquiring us or merging with us.

Item 1B. Unresolved Staff Comments

Not applicable.

Item 2. Properties

On February 11, 2021, we entered into a lease agreement (the "Campus Point Lease") with ARE-SD Region No. 58 LLC ("Campus Point Landlord"), for the lease of approximately 13,438 square feet of rentable area located at 4224 Campus Point Court, Suite 210, San Diego, California 92121 (the "Campus Point Premises"). The commencement date of the Campus Point Lease is expected to be on or before April 15, 2021. We expect to use the Campus Point Premises as our new principal executive offices and as a laboratory for research and development, manufacturing and other related uses. The term of the Campus Point Lease (“Campus Point Initial Term”) is 60 months, ending May 1, 2026 (assuming an April 15, 2021 commencement date).

Our lease of approximately 8,728 square feet of space at located 10628 Science Center Drive, Suite 225, San Diego, California 92121 will be assigned to a third party upon commencement of the Campus Point Lease.

We believe that our existing facilities are adequate and that the Campus Point Premises will be adequate for our current and future needs.

Item 3. Legal Proceedings

On January 31, 2017, a putative class action complaint was filed by Baran Polat in the United States District Court for the Southern District of California, or District Court, against us, Paul C. Grint (our former Chief Executive Officer), and Joseph P. Hagan (then our Chief Operating Officer and currently our President and Chief Executive Officer). The complaint includes claims asserted, on behalf of certain purchasers of our securities, under Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, as amended. In general, the complaint alleges that, between January 21, 2016, and June 27, 2016, the defendants violated the federal securities laws by making materially false and misleading statements regarding our business and the prospects for RG-101, thereby artificially inflating the price of our securities. The plaintiff seeks unspecified monetary damages and other relief. On February 10, 2017, a second putative class action complaint was filed by Li Jin in the District Court against the Company, Mr. Hagan, Dr. Grint, and Timothy Wright, the Company's former Chief Research and Development Officer. The Complaint alleges claims similar to those asserted by Mr. Polat. The actions have been related. On February 17, 2017, the District Court entered an order stating that defendants need not answer, or otherwise respond, until the District Court enters an order appointing, pursuant to the Private Securities Litigation Reform Act of 1995, lead plaintiff and lead counsel, and the parties then submit a schedule to the District Court for the filing of an amended or consolidated complaint and the timing of defendants' answer or response. On April 3, 2017, two motions for consolidation of the two actions, appointment of lead plaintiff and approval of counsel were filed in the actions. On October 26, 2017, the District Court entered an order consolidating the cases, appointing lead plaintiffs, and appointing lead counsel for lead plaintiffs. On December 22, 2017, lead plaintiffs filed a consolidated complaint against the Company, Dr. Grint, Mr. Hagan, and Michael Huang (our former Vice President of Clinical Development). The consolidated complaint alleges that between February 17, 2016 and June 12, 2017, the defendants violated Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, as amended, by making materially false and misleading statements regarding RG-101. The consolidated complaint seeks unspecified monetary damages and an award of attorneys' fees and costs. On February 6, 2018, defendants filed a motion to dismiss the consolidated complaint. On March 23, 2018, plaintiff filed their opposition to the motion and on April 24, 2018, defendants filed their response. On September 5, 2019, the court granted the defendants' motion to dismiss with leave to amend. Plaintiffs filed their amended complaint on October 1, 2019. Subsequent to the filing of the amended complaint, counsel for the parties engaged in negotiations to resolve the case. On November 4, 2019, the parties agreed in principle to settle the case for $0.9 million, with approximately $0.2 million to be paid by us and the balance to be paid by our D&O insurance carrier. On December 11, 2019, the parties entered into a stipulation and agreement of settlement, which was amended on February 6, 2020. On February 7, 2020, plaintiffs filed a motion for preliminary approval of the settlement. On May 27, 2020, the court entered an order preliminarily approving the settlement. On October 21, 2020, the court held a hearing regarding approval of the settlement and on October 29, 2020 the court entered its order granting final approval of the settlement. On December 29, 2020, the court entered the final judgment and dismissed the action with prejudice. The consolidated actions were dismissed on December 29, 2020. In July 2020, in connection with the proposed settlement, we remitted approximately $0.2 million into escrow, which represents the amount payable by us under the settlement, net of $0.7 million of D&O insurance carrier proceeds. We relieved the $0.9 million loss contingency that was recorded as a current liability on our balance sheet at December 31, 2019, as well as the $0.7 million of insurance proceeds that was recorded as a current receivable on our balance sheet at December 31, 2019. The $0.2 million settlement amount payable by the Company was recorded to the statement of operations and comprehensive loss for the year ended December 31, 2019.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

Our common stock was listed on The Nasdaq Global Market under the symbol "RGLS" from October 4, 2012 through January 10, 2019. Since January 11, 2019, our common stock has been listed on The Nasdaq Capital Market.

Holders of Record

As of March 5, 2021, there were 9 holders of record of our common stock.

Dividend Policy

We have never declared or paid any cash dividends on our common stock. We currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business. We do not

intend to pay cash dividends on our common stock for the foreseeable future. Any future determination related to our dividend policy will be made at the discretion of our board of directors and will depend upon, among other factors, our results of operations, financial condition, capital requirements, contractual restrictions, business prospects and other factors our board of directors may deem relevant. In addition, our ability to pay cash dividends is currently prohibited by the terms of the Loan Agreement with Oxford.

Securities Authorized for Issuance Under Equity Compensation Plans

Information about our equity compensation plans is incorporated herein by reference to Item 12 of Part III of this Annual Report.

Item 6. Selected Financial Data

Not required.

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

You should read the following discussion and analysis and our financial statements and related notes included elsewhere in this Annual Report. The following discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those expressed or implied in any forward-looking statements as a result of various factors, including those set forth under the caption "Risk Factors," under Part I, Item 1A of this Annual Report.

OVERVIEW

We are a clinical-stage biopharmaceutical company focused on discovering and developing first-in-class drugs targeting *micro*RNAs to treat diseases with significant unmet medical need. We were formed in 2007 when Alnylam and Ionis contributed significant intellectual property, know-how and financial and human capital to pursue the development of drugs targeting *micro*RNAs pursuant to a license and collaboration agreement. Our most advanced product candidates are RG-012 and RGLS4326. RG-012 is an anti-miR targeting miR-21 for the treatment of Alport syndrome, a life-threatening kidney disease with no approved therapy available. In November 2018, we and Sanofi agreed to transition further development activities of our miR-21 programs, including our RG-012 program, to Sanofi. As a result, Sanofi became responsible for all costs incurred in the development of our miR programs. The transition activities were completed in the second quarter of 2019. RGLS4326 is an anti-miR targeting miR-17 for the treatment of ADPKD. In addition to these clinical programs, we continue to develop a pipeline of preclinical drug product candidates.

Since our inception through December 31, 2020, we have relied primarily on the sale of our equity and convertible debt securities to fund company operations. We have received $361.8 million from the sale of our equity and convertible debt securities, $101.8 million from our collaborations, principally from upfront payments, research funding and preclinical and clinical milestones, and $19.8 million in net proceeds from our Term Loan. As of December 31, 2020, we had cash and cash equivalents of approximately $31.1 million.

FINANCIAL OPERATIONS OVERVIEW

Revenue

Our revenues generally consist of upfront payments for licenses or options to obtain licenses in the future, milestone payments and payments for other research services under collaboration agreements.

In the future, we may generate revenue from a combination of license fees and other upfront payments, payments for research and development services, milestone payments, product sales and royalties in connection with strategic collaborations. We expect that any revenue we generate will fluctuate from quarter-to-quarter as a result of the timing of our achievement of preclinical, clinical, regulatory and commercialization milestones, if at all, the timing and amount of payments relating to such milestones and the extent to which any of our products are approved and successfully commercialized by us or our strategic collaboration partners. If our current or future collaboration partners do not elect or otherwise agree to fund our development costs pursuant to our current or future strategic collaboration agreements, or we or our strategic collaboration partner fails to develop product candidates in a timely manner or obtain regulatory approval for them, our ability to generate future revenues, and our results of operations and financial position would be adversely affected.

Research and development expenses

Research and development expenses consist of costs associated with our research activities, including our drug discovery efforts and the development of our therapeutic programs. Our research and development expenses include:

- employee-related expenses, including salaries, benefits, travel and stock-based compensation expense;
- external research and development expenses incurred under arrangements with third parties, such as contract research organizations, or CROs, contract manufacturing organizations, or CMOs, other clinical trial related vendors, consultants and our scientific advisors;
- license fees; and
- facilities, depreciation and other allocated expenses, which include direct and allocated expenses for rent and maintenance of facilities, amortization of leasehold improvements and equipment, and laboratory and other supplies.

We expense research and development costs as incurred. We account for nonrefundable advance payments for goods and services that will be used in future research and development activities as expenses when the service has been performed or when the goods have been received. Certain of the raw materials used in the process of manufacturing drug product are capitalized upon their acquisition and expensed upon usage, as we have determined these materials have alternative future use.

To date, we have conducted research on many different *micro*RNAs with the goal of understanding how they function and identifying those that might be targets for therapeutic modulation. At any given time we are working on multiple targets, primarily within our therapeutic areas of focus. Our organization is structured to allow the rapid deployment and shifting of resources to focus on the most promising targets based on our ongoing research. As a result, in the early phase of our development programs, our research and development costs are not tied to any specific target. However, we are currently spending the vast majority of our research and development resources on our lead development programs.

Since our inception, we have incurred a total of approximately $373.4 million in research and development expenses through December 31, 2020.

The process of conducting clinical trials and preclinical studies necessary to obtain regulatory approval is costly and time consuming. We, or our strategic collaboration partners, may never succeed in achieving marketing approval for any of our product candidates. The probability of success for each product candidate may be affected by numerous factors, including preclinical data, clinical data, competition, manufacturing capability and commercial viability.

Successful development of future product candidates is highly uncertain and may not result in approved products. Completion dates and completion costs can vary significantly for each future product candidate and are difficult to predict. We anticipate we will make determinations as to which programs to pursue and how much funding to direct to each program on an ongoing basis in response to our ability to maintain or enter into new collaborations with respect to each program or potential product candidate, the scientific and clinical success of each future product candidate, as well as ongoing assessments as to each future product candidate's commercial potential. We will need to raise additional capital and may seek additional collaborations in the future in order to advance our various programs.

General and administrative expenses

General and administrative expenses consist primarily of salaries and related benefits, including stock-based compensation, related to our executive, finance, legal, business development and support functions. Other general and administrative expenses include allocated facility-related costs not otherwise included in research and development expenses and professional fees for auditing, tax and legal services, some of which are incurred as a result of being a publicly-traded company.

Other income (expense), net

Other income (expense) consists primarily of interest income and expense and various income or expense items of a non-recurring nature. We earn interest income from interest-bearing accounts and money market funds for cash and cash equivalents and marketable securities, such as interest-bearing bonds, for our short-term investments. Interest expense is primarily attributable to interest charges associated with borrowings under our secured Term Loan.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

The preparation of our financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities, and the revenues and expenses incurred during

the reported periods. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are described in the notes to our financial statements appearing elsewhere in this Annual Report, we believe that the following critical accounting policies are most important to understanding and evaluating our reported financial results.

Revenue Recognition

Our revenues generally consist of upfront payments for licenses or options to obtain licenses in the future, milestone payments and payments for other research services under license and collaboration agreements.

We recognize revenue when we transfer promised goods or services to customers in an amount that reflects the consideration to which we expect to be entitled in exchange for those goods or services. To determine revenue recognition for contracts with customers we perform the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligation(s) in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligation(s) in the contract; and (v) recognize revenue when (or as) we satisfy the performance obligation(s). At contract inception, we assess the goods or services promised within each contract, assess whether each promised good or service is distinct and identify those that are performance obligations. We recognize as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

Collaborative Arrangements

We enter into collaborative arrangements with partners that typically include payment to us of one of more of the following: (i) license fees; (ii) payments related to the achievement of developmental, regulatory, or commercial milestones; and (iii) royalties on net sales of licensed products. Where a portion of non-refundable up-front fees or other payments received are allocated to continuing performance obligations under the terms of a collaborative arrangement, they are recorded as contract liabilities and recognized as revenue when (or as) the underlying performance obligation is satisfied.

As part of the accounting for these arrangements, we must develop estimates and assumptions that require judgment to determine the underlying stand-alone selling price for each performance obligation which determines how the transaction price is allocated among the performance obligation(s). The stand-alone selling price may include items such as forecasted revenues, development timelines, discount rates, and probabilities of technical and regulatory success. We evaluate each performance obligation to determine if it can be satisfied at a point in time, or over time. In addition, variable consideration must be evaluated to determine if it is constrained and, therefore, excluded from the transaction price.

License Fees

If a license to our intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, we recognize revenues from non-refundable, up-front fees allocated to the license when the license is transferred to the licensee and the licensee is able to use and benefit from the license. For licenses that are bundled with other performance obligations, we use judgment to assess the nature of the combined performance obligation to determine whether it 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. We evaluate the measure of progress each reporting period and, if necessary, adjust the measure of performance and related revenue recognition.

Milestone Payments

At the inception of each arrangement that includes milestone payments (variable consideration), we evaluate whether the milestones are considered probable of being reached and estimate the amount to be included in the transaction price. If it is probable that a milestone event would occur at the inception of an arrangement, the associated milestone value is included in the transaction price. Milestone payments that are contingent upon the achievement of events that are uncertain or not controllable, such as regulatory approvals, are generally not considered probable of being achieved until those approvals are received, and therefore not included in the transaction price. The transaction price is then allocated to each performance obligation on a relative stand-alone selling price basis, for which we recognize revenue as or when the performance obligations under the contract are satisfied. At the end of each reporting period, we evaluate the probability of achievement of such milestones and any related constraint(s), and if necessary, may adjust our estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which could affect license, collaboration or other revenues and earnings in the period of adjustment.

Royalties

For arrangements that include sales-based royalties, including milestone payments based on the level of sales, and for which the license is deemed to be the predominant item to which the royalties relate, we recognize 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, we have not recognized any royalty revenue resulting from any of our collaborative arrangements.

Clinical Trial and Preclinical Study Accruals

We make estimates of our accrued expenses for clinical trial and preclinical study activities as of each balance sheet date in our financial statements based on the facts and circumstances known to us at that time. These accruals are based upon estimates of costs incurred and fees that may be associated with services provided by clinical trial investigational sites, CROs and for other clinical trial-related activities. Payments under certain contracts with such parties depend on factors such as successful enrollment of patients, site initiation and the completion of clinical trial milestones. In accruing for these services, we estimate the time period over which services will be performed and the level of effort to be expended in each period. If possible, we obtain information regarding unbilled services directly from these service providers. However, we may be required to estimate these services based on other information available to us. If we underestimate or overestimate the activities or fees associated with a study or service at a given point in time, adjustments to research and development expenses may be necessary in future periods. Historically, our estimated accrued liabilities have approximated actual expense incurred. Subsequent changes in estimates may result in a material change in our accruals.

Recent Accounting Pronouncements

For a discussion of recently issued accounting pronouncements, refer to the section titled “Recent Accounting Pronouncements” within “The Business, Basis of Presentation and Summary of Significant Accounting Policies” of our financial statements included elsewhere in this Annual Report.

RESULTS OF OPERATIONS

Comparison of the years ended December 31, 2020 and 2019

The following table summarizes our results of operations for the years ended December 31, 2020 and 2019 (in thousands):

	Years ended December 31,	
	2020	2019
Revenue under collaborations	$ 10,006	$ 6,832
Research and development expenses	15,347	12,349
General and administrative expenses	8,814	11,317
Interest and other expenses, net	(1,575)	(1,757)

Revenue under collaborations

Our revenues are generated from ongoing collaborations, and generally consist of upfront payments for licenses or options to obtain licenses in the future, milestone payments, program material sales payments and payments for other research services. Revenue under collaborations was $10.0 million for the year ended December 31, 2020, compared to $6.8 million for the year ended December 31, 2019. The increase was attributable to the recognition of the Enrollment Milestone under the 2020 Sanofi Amendment and the recognition of program-related materials under the 2020 Sanofi Amendment as revenue during the year ended December 31, 2020.

Research and development expenses

The following table summarizes the components of our research and development expenses for the periods indicated, together with year-over-year changes (dollars in thousands):

					Increase (decrease)	
	2020	% of total	2019	% of total	$	%
Research and development						
Personnel and internal expenses	$ 5,864	38 %	$ 6,669	54 %	$ (805)	(12)%
Third-party and outsourced expenses	8,342	54 %	4,799	39 %	3,543	74 %
Non-cash stock-based compensation	693	5 %	309	2 %	384	124 %
Depreciation	448	3 %	572	5 %	(124)	(22)%
Total research and development expenses	$ 15,347	100 %	$ 12,349	100 %	$ 2,998	24 %

Research and development expenses increased by $3.0 million for the year ended December 31, 2020 compared to the year ended December 31, 2019. The aggregate increase was driven by a $3.5 million increase in external development costs, primarily attributable to the fact that FDA lifted the partial clinical hold on the RGLS4326 Phase 1 MAD study in December 2019 and we recommenced that study in February 2020, with the final dosing completed in July 2020. Further contributing to the increase in external development costs were costs associated with activities leading up to, and including, patient dosing in our RGLS4326 Phase 1b study, with the first patient having been dosed in October 2020.

General and administrative expenses

General and administrative expenses were $8.8 million for the year ended December 31, 2020, compared to $11.3 million for the year ended December 31, 2019. These amounts reflect personnel-related and ongoing general business operating costs. The decrease during the year ended December 31, 2020, as compared to the year ended December 31, 2019, are primarily attributable to continued cost reduction efforts subsequent our corporate restructurings.

Interest and other expenses, net

Net interest and other expenses were $1.6 million for the year ended December 31, 2020 compared to $1.8 million for the year ended December 31, 2019. These amounts are primarily related to interest charges associated with our outstanding Term Loan.

LIQUIDITY AND CAPITAL RESOURCES

The accompanying financial statements have been prepared on a basis which assumes we are a going concern, and does not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classifications of liabilities that may result from any uncertainty related to our ability to continue as a going concern.

If we are unable to maintain sufficient financial resources, our business, financial condition and results of operations will be materially and adversely affected. There can be no assurance that we will be able to obtain the needed financing on acceptable terms or at all. Additionally, equity or debt financings may have a dilutive effect on the holdings of the Company's existing stockholders. These factors raise substantial doubt about our ability to continue as a going concern.

Our future capital requirements are difficult to forecast and will depend on many factors, including:

- whether and when we achieve any of the remaining milestones under our collaboration and license agreement with Sanofi;
- the terms and timing of any other strategic collaboration, licensing and other arrangements that we may establish;

- the initiation, progress, timing and completion of preclinical studies and clinical trials for our development programs and product candidates, and associated costs;
- the number and characteristics of product candidates that we pursue;
- the outcome, timing and cost of regulatory approvals;
- delays that may be caused by changing regulatory requirements;
- the cost and timing of hiring new employees;
- the costs involved in filing and prosecuting patent applications and enforcing and defending patent claims;
- the costs and timing of procuring clinical and commercial supplies of our product candidates;
- the costs and timing of establishing sales, marketing and distribution capabilities, and the pricing and reimbursement for any products for which we may receive regulatory approval;
- the extent to which we acquire or invest in businesses, products or technologies;
- the extent to which our PPP Loan is forgiven; and
- payments under our Term Loan.

The following table shows a summary of our cash flows for the years ended December 31, 2020 and 2019 (in thousands):

	Years ended December 31,	
	2020	2019
Net cash (used in) provided by:		
Operating activities	$ (12,536)	$ (19,821)
Investing activities	(11)	74
Financing activities	9,513	39,933
Total	$ (3,034)	$ 20,186

Operating activities

Net cash used in operating activities decreased to $12.5 million for the year ended December 31, 2020, compared to $19.8 million for the year ended December 31, 2019. Net cash used in operating activities were primarily attributable to net losses of $15.7 million and $18.6 million for the years ended December 31, 2020 and 2019, respectively. Adjustments for non-cash charges, including stock-based compensation, decreased to $3.2 million for the year ended December 31, 2020, compared to $5.4 million for the year ended December 31, 2019. Changes in working capital resulted in net cash used in operating activities of less than $0.1 million for the year ended December 31, 2020, compared to net cash used in operating activities of $6.6 million for the year ended December 31, 2019.

Investing activities

Net cash used in investing activities for the year ended December 31, 2020 was attributable to the acquisition of intangible assets. Net cash provided by investing activities for the year ended December 31, 2019 was primarily related to the sale of property and equipment.

Financing activities

Net cash provided by financing activities was $9.5 million for the year ended December 31, 2020, compared to net cash provided by financing activities of $39.9 million for the year ended December 31, 2019. Net cash provided by financing activities for the year ended December 31, 2020 was attributable to total net proceeds received from our private placement of common stock, warrants to purchase common stock and non-voting convertible preferred stock in December 2020 of $18.2 million, partially offset by the remittance of $10.0 million of principal amortization payments under our Term Loan. Net cash provided by financing activities for the year ended December 31, 2019 was attributable to total net proceeds received from our private placement of common stock, warrants to purchase common stock and non-voting convertible preferred stock in May 2019 and December 2019 of $40.1 million.

Off Balance Sheet Arrangements

As of December 31, 2020, we did not have any off-balance sheet arrangements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Some of the securities that we invest in have market risk where a change in prevailing interest rates may cause the principal amount of short-term investments to fluctuate. Financial instruments that potentially subject us to significant concentrations of credit risk consist primarily of cash and cash equivalents. We invest our excess cash primarily in money market funds. The primary objectives of our investment activities are to ensure liquidity and to preserve principal while at the same time maximizing the income we receive from our investments without significantly increasing risk. We have established guidelines regarding approved investments and maturities of investments, which are designed to maintain safety and liquidity.

Because of the short-term maturities of our cash equivalents, we do not believe that an increase in market rates would have any significant impact on the realized value of our cash equivalents. If a 10% change in interest rates were to have occurred on December 31, 2020, this change would not have had a material effect on the fair value of our cash equivalents as of that date.

We also have interest rate exposure as a result of our outstanding Term Loan. As of December 31, 2020, the outstanding principal amount of the Term Loan was $4.7 million. The Term Loan bears interest at a floating per annum rate equal to (i) 8.51% plus (ii) the greater of (a) the 30 day U.S. Dollar LIBOR rate reported in *The Wall Street Journal* on the last business day of the month that immediately precedes the month in which the interest will accrue and (b) 0.44%. Changes in the U.S. Dollar LIBOR rate may therefore affect our interest expense associated with the Term Loan. LIBOR is currently scheduled to be phased out by the end of 2021. Before LIBOR is phased out, we may need to renegotiate the Term Loan to replace LIBOR with SOFR. The consequences of these developments cannot be entirely predicted, but could result in higher interest rates on the principal amount of the Term Loan.

If a 10% change in interest rates were to have occurred on December 31, 2020, this change would not have had a material effect on our interest expense as of that date.

Item 8. Financial Statements and Supplementary Data

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of Regulus Therapeutics Inc.

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Regulus Therapeutics Inc. (the Company) as of December 31, 2020 and 2019, the related statements of operations and comprehensive loss, stockholders' equity (deficit) and cash flows for each of the two years in the period ended December 31, 2020, 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 at December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2020, in conformity with U.S. generally accepted accounting principles.

The Company's Ability to Continue as a Going Concern

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has suffered recurring losses from operations and has stated that substantial doubt exists about the Company's ability to continue as a going concern. Management's evaluation of the events and conditions and management's plans regarding these matters are also described in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

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 Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits 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. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

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 the critical audit matter 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.

Clinical Trial and Preclinical Study Accruals

Description of the Matter

During 2020, the Company incurred $15.3 million for research and development expense and as of December 31, 2020, the Company accrued $1.1 million for clinical trial and preclinical study expenses. As described in Note 1 to the financial statements, the Company records accruals for estimated costs of clinical trial and preclinical studies that include services provided by clinical trial investigational sites and contract research organizations and other clinical trial-related activities. Clinical trial and preclinical study activities performed by third parties are accrued and expensed based upon estimates of the time period over which these services will be performed and the level of effort to be expended in each period.

Auditing management's accounting for clinical trial and preclinical study accruals is especially challenging as evaluating the progress or stage of completion of the activities under the Company's research and development agreements is dependent on information from third-party service providers and internal clinical personnel, which includes both subjective and qualitative aspects.

How We Addressed the Matter in Our Audit

To test the Company's accrued expenses for clinical trial and pre-clinical study activities, among other procedures, we obtained supporting evidence of the research and development activities performed for significant clinical trials and preclinical studies. We inspected summaries of project status meetings with accounting personnel and clinical project managers to corroborate the status of significant research and development activities. To verify the appropriate measurement of clinical trial and preclinical study accruals, we compared the costs for a sample of transactions against the related invoices and contracts and confirmed amounts incurred to-date with third-party service providers. We also examined a sample of subsequent payments to evaluate the completeness of the clinical trial and preclinical study accruals.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2007.

San Diego, California
March 9, 2021

Regulus Therapeutics Inc.
BALANCE SHEETS
(In thousands, except share and per share data)

	December 31, 2020	December 31, 2019
Assets		
Current assets:		
Cash and cash equivalents	$ 31,087	$ 34,121
Contract and other receivables	503	1,141
Prepaid materials, net	3,314	3,924
Prepaid expenses and other current assets	1,826	1,221
Total current assets	36,730	40,407
Property and equipment, net	472	921
Intangibles, net	125	266
Other assets	277	487
Total assets	$ 37,604	$ 42,081
Liabilities and stockholders' equity (deficit)		
Current liabilities:		
Accounts payable	$ 535	$ 1,321
Accrued liabilities	581	770
Accrued research and development expenses	1,097	147
Accrued compensation	1,743	1,676
Current portion of term loan, less debt issuance costs	4,652	14,631
Current portion of contract liabilities	—	6
Other current liabilities	2,970	3,047
Total current liabilities	11,578	21,598
Other long-term liabilities	—	468
Total liabilities	11,578	22,066
Stockholders' equity (deficit):		
Class A-1 convertible preferred stock, $0.001 par value; 256,700 and 415,898 shares authorized, issued and outstanding at December 31, 2020 and 2019, respectively	—	1
Class A-2 convertible preferred stock, $0.001 par value; 1,416,453 and 3,288,390 shares authorized, issued and outstanding at December 31, 2020 and 2019, respectively	1	3
Class A-3 convertible preferred stock, $0.001 par value; 258,707 and 0 shares authorized, issued and outstanding at December 31, 2020 and 2019, respectively	1	—
Common stock, $0.001 par value; 200,000,000 shares authorized, 67,432,712 and 21,018,663 shares issued and outstanding at December 31, 2020 and 2019, respectively	67	21
Additional paid-in capital	453,002	431,305
Accumulated deficit	(427,045)	(411,315)
Total stockholders' equity	26,026	20,015
Total liabilities and stockholders' equity	$ 37,604	$ 42,081

See accompanying notes to these financial statements.

Regulus Therapeutics Inc.
STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(In thousands, except share and per share data)

	2020	2019
Revenues:		
Revenue under collaborations	$ 10,006	$ 6,832
Total revenues	10,006	6,832
Operating expenses:		
Research and development	15,347	12,349
General and administrative	8,814	11,317
Total operating expenses	24,161	23,666
Loss from operations	(14,155)	(16,834)
Other income (expense):		
Interest and other income	233	374
Interest and other expense	(1,808)	(2,131)
Loss before income taxes	(15,730)	(18,591)
Income tax expense	—	(1)
Net loss and comprehensive net loss	$ (15,730)	$ (18,592)
Net loss per share, basic and diluted	$ (0.45)	$ (1.08)
Weighted average shares used to compute basic and diluted net loss per share	34,977,378	17,260,176

See accompanying notes to these financial statements.

STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT)
(In thousands, except share data)

	Convertible Preferred Stock		Common stock		Additional paid-in capital	Accumulated deficit	Total stockholders' equity (deficit)
	Shares	Amount	Shares	Amount			
Balance at December 31, 2018	—	$ —	8,818,019	$ 9	$ 386,860	$ (392,723)	$ (5,854)
Issuance of common stock upon exercise of options	—	—	2,750	—	3	—	3
Issuance of common stock upon vesting of restricted stock units	—	—	559,445	—	—	—	—
Issuance of common stock, preferred stock and warrants from private placement, net of offering costs	3,704,288	4	9,730,534	10	40,070	—	40,084
Stock-based compensation expense	—	—	—	—	2,288	—	2,288
Issuance of common stock under Employee Stock Purchase Plan	—	—	4,035	—	3	—	3
Issuance of common stock through ATM	—	—	1,903,880	2	2,081	—	2,083
Net loss	—	—	—	—	—	(18,592)	(18,592)
Balance at December 31, 2019	3,704,288	$ 4	21,018,663	$ 21	$ 431,305	$ (411,315)	$ 20,015
Issuance of common stock upon exercise of options	—	—	6,842	—	5	—	5
Issuance of common stock upon exercise of warrants	—	—	1,038,970	1	691	—	692
Issuance of common stock upon vesting of restricted stock units	—	—	75,384	—	—	—	—
Issuance of common stock, preferred stock and warrants from private placement, net of offering costs	272,970	—	24,341,607	25	18,141	—	18,166
Stock-based compensation expense	—	—	—	—	2,614	—	2,614
Issuance of common stock under Employee Stock Purchase Plan	—	—	4,998	—	2	—	2
Issuance of common stock through ATM	—	—	492,268	—	262	—	262
Conversions of convertible preferred stock	(2,045,398)	(2)	20,453,980	20	(18)	—	—
Net loss	—	—	—	—	—	(15,730)	(15,730)
Balance at December 31, 2020	1,931,860	$ 2	67,432,712	$ 67	$ 453,002	$ (427,045)	$ 26,026

See accompanying notes to these financial statements.

Regulus Therapeutics Inc.
STATEMENTS OF CASH FLOWS
(In thousands)

	Years ended December 31,	
	2020	2019
Operating activities		
Net loss	$ (15,730)	$ (18,592)
Adjustments to reconcile net loss to net cash used in operating activities		
Depreciation and amortization expense	467	931
Stock-based compensation	2,614	2,288
Gain on reduction of lease liability	—	1,839
Other	154	293
Change in operating assets and liabilities:		
Contracts and other receivables	638	(1,115)
Prepaid materials	610	270
Prepaid expenses and other assets	(395)	(242)
Accounts payable	(786)	(393)
Accrued liabilities	(188)	(281)
Accrued research and development expenses	949	(427)
Accrued compensation	66	75
Contract liabilities	(6)	(2,572)
Other liabilities	(929)	(1,895)
Net cash used in operating activities	(12,536)	(19,821)
Investing activities		
Purchases of property and equipment	—	(221)
Sales of property and equipment	—	318
Acquisition of intangibles	(11)	(23)
Net cash (used in) provided by investing activities	(11)	74
Financing activities		
Proceeds from issuance of securities through private placement, net of issuance costs	18,166	40,084
Proceeds from issuance of common stock, net	957	2,086
Proceeds from borrowing under Paycheck Protection Program	662	—
Proceeds from exercise of common stock options	5	3
Payments on financing leases	(277)	(263)
Principal payments on term loan	(10,000)	(1,977)
Net cash provided by financing activities	9,513	39,933
Net (decrease) increase in cash and cash equivalents	(3,034)	20,186
Cash and cash equivalents at beginning of period	34,121	13,935
Cash and cash equivalents at end of period	$ 31,087	$ 34,121
Supplemental disclosure of cash flow information		
Interest paid	$ (1,356)	$ (1,655)
Income taxes paid	$ (1)	$ (1)
Supplemental disclosure of non-cash investing and financing activities		
Unsettled sales of common stock through ATM	$ 392	$ —
Non-cash acquisition of property and equipment	$ —	$ 3

See accompanying notes to these financial statements.

Regulus Therapeutics Inc.
NOTES TO FINANCIAL STATEMENTS

1. The Business, Basis of Presentation and Summary of Significant Accounting Policies

We are a biopharmaceutical company focused on discovering and developing first-in-class drugs that target microRNAs to treat a broad range of diseases. We were formed in 2007 when Alnylam and Ionis contributed significant intellectual property, know-how and financial and human capital to pursue the development of drugs targeting *micro*RNAs pursuant to a license and collaboration agreement. Regulus Therapeutics Inc. was converted to a Delaware corporation on January 2, 2009. As used in this report, unless the context suggests otherwise, "the Company," "our," "us" and "we" means Regulus Therapeutics Inc.

Liquidity

The accompanying financial statements have been prepared on a basis which assumes we are a going concern, and does not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classifications of liabilities that may result from any uncertainty related to our ability to continue as a going concern. Through the date of the issuance of these financial statements, we have principally been financed through proceeds received from the sale of our common stock and other equity securities, debt financings, up-front payments and milestones received from collaboration agreements, totaling $483.4 million. As of December 31, 2020, we had approximately $31.1 million of cash and cash equivalents. Based on our operating plans, we believe our cash and cash equivalents may not be sufficient to fund our operations for the period one year following the issuance of these financial statements. As a result, there is substantial doubt about our ability to continue as a going concern. All amounts due under the Term Loan (see note 9) have been classified as a current liability as of December 31, 2020 and 2019, due to the considerations discussed above and the assessment that the material adverse change clause under the Term Loan is not within our control. During the period after December 31, 2020, we received a waiver from the Lender (as defined below) with respect to noncompliance with a covenant under the Loan Agreement (as defined below) and are in compliance with all Loan Agreement covenants as of the date of the filing of this Form 10-K.

We intend to seek additional capital through equity and/or debt financings, collaborative or other funding arrangements with partners or through other sources of financing. Should we seek additional financing from outside sources, we may not be able to raise such financing on terms acceptable to us or at all. If we are unable to raise additional capital when required or on acceptable terms, we may be required to scale back or discontinue the advancement of product candidates, reduce headcount, file for bankruptcy, reorganize, merge with another entity, or cease operations.

If we become unable to continue as a going concern, we may have to liquidate our assets, and might realize significantly less than the values at which they are carried on our financial statements, and stockholders may lose all or part of their investment in our common stock.

Use of Estimates

Our financial statements are prepared in accordance with GAAP, which requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses and the disclosure of contingent assets and liabilities in our financial statements and accompanying notes. An estimated loss contingency is accrued in our financial statements if it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated. Although these estimates are based on our knowledge of current events and actions we may undertake in the future, actual results may ultimately differ from these estimates and assumptions. Though the impact of the COVID-19 pandemic to our business and operating results presents additional uncertainty, we continue to use the best information available to inform our critical accounting estimates.

Revenue Recognition

Our revenues generally consist of upfront payments for licenses or options to obtain licenses in the future, milestone payments and payments for other research services under license and collaboration agreements.

We recognize revenue when we transfer promised goods or services to customers in an amount that reflects the consideration to which we expect to be entitled in exchange for those goods or services. To determine revenue recognition for contracts with customers we perform the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligation(s) in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligation(s) in the contract; and (v) recognize revenue when (or as) we satisfy the performance obligation(s). At contract inception, we assess the goods or services promised within each contract, assess whether each promised good or service is distinct and identify those that are performance obligations. We recognize as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

Collaborative Arrangements

We enter into collaborative arrangements with partners that typically include payment to us of one of more of the following: (i) license fees; (ii) payments related to the achievement of developmental, regulatory, or commercial milestones; and (iii) royalties on net sales of licensed products. Where a portion of non-refundable up-front fees or other payments received are allocated to continuing performance obligations under the terms of a collaborative arrangement, they are recorded as contract liabilities and recognized as revenue when (or as) the underlying performance obligation is satisfied.

As part of the accounting for these arrangements, we must develop estimates and assumptions that require judgment to determine the underlying stand-alone selling price for each performance obligation which determines how the transaction price is allocated among the performance obligation(s). The stand-alone selling price may include items such as forecasted revenues, development timelines, discount rates, and probabilities of technical and regulatory success. We evaluate each performance obligation to determine if it can be satisfied at a point in time, or over time. In addition, variable consideration must be evaluated to determine if it is constrained and, therefore, excluded from the transaction price.

License Fees

If a license to our intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, we recognize revenues from non-refundable, up-front fees allocated to the license when the license is transferred to the licensee and the licensee is able to use and benefit from the license. For licenses that are bundled with other performance obligations, we use judgment to assess the nature of the combined performance obligation to determine whether it 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. We evaluate the measure of progress each reporting period and, if necessary, adjust the measure of performance and related revenue recognition.

Milestone Payments

At the inception of each arrangement that includes milestone payments (variable consideration), we evaluate whether the milestones are considered probable of being reached and estimate the amount to be included in the transaction price. If it is probable that a milestone event would occur at the inception of an arrangement, the associated milestone value is included in the transaction price. Milestone payments that are contingent upon the achievement of events that are uncertain or not controllable, such as regulatory approvals, are generally not considered probable of being achieved until those approvals are received, and therefore not included in the transaction price. The transaction price is then allocated to each performance obligation on a relative stand-alone selling price basis, for which we recognize revenue as or when the performance obligations under the contract are satisfied. At the end of each reporting period, we evaluate the probability of achievement of such milestones and any related constraint(s), and if necessary, may adjust our estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which could affect license, collaboration or other revenues and earnings in the period of adjustment.

Royalties

For arrangements that include sales-based royalties, including milestone payments based on the level of sales, and for which the license is deemed to be the predominant item to which the royalties relate, we recognize 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, we have not recognized any royalty revenue resulting from any of our collaborative arrangements.

Stock-Based Compensation

We account for stock-based compensation expense related to stock options granted to employees and members of our board of directors by estimating the fair value of each stock option on the date of grant using the Black-Scholes option pricing model. We recognize stock-based compensation expense using the accelerated multiple-option approach. Under the accelerated multiple-option approach (also known as the graded-vesting method), we recognize compensation expense over the requisite service period for each separately vesting tranche of the award as though the award was in substance multiple awards, resulting in accelerated expense recognition over the vesting period. For performance-based awards granted to employees (i) the fair value of the award is determined on the grant date, (ii) we assess the probability of the individual milestones under the award being achieved and (iii) the fair value of the shares subject to the milestone is expensed over the implicit service period commencing once management believes the performance criteria is probable of being met.

We account for restricted stock units by determining the fair value of each restricted stock unit based on the closing market price of our common stock on the date of grant. We recognize stock-based compensation expense using the accelerated multiple-option approach over the requisite service periods of the awards.

Clinical Trial and Preclinical Study Accruals

We make estimates of our accrued expenses for clinical trial and preclinical study activities as of each balance sheet date in our financial statements based on the facts and circumstances known to us at that time. These accruals are based upon estimates of costs incurred and fees that may be associated with services provided by clinical trial investigational sites and CROs and for other clinical trial-related activities. Payments under certain contracts with such parties depend on factors such as successful enrollment of patients, site initiation and the completion of clinical trial milestones. In accruing for these services, we estimate the time period over which services will be performed and the level of effort to be expended in each period. If possible, we obtain information regarding unbilled services directly from these service providers. However, we may be required to estimate these services based on other information available to us. If we underestimate or overestimate the activities or fees associated with a study or service at a given point in time, adjustments to research and development expenses may be necessary in future periods. Historically, our estimated accrued liabilities have approximated actual expense incurred. Subsequent changes in estimates may result in a material change in our accruals.

Prepaid Materials

We capitalize the purchase of certain raw materials and related supplies for use in the manufacturing of drug product in our preclinical and clinical development programs, as we have determined that these materials have alternative future use. We can use these raw materials and related supplies in multiple clinical drug products, and therefore have future use independent of the development status of any particular drug program until it is utilized in the manufacturing process. We expense the cost of materials when used. We periodically review these capitalized materials for continued alternative future use and write down the asset to its net realizable value in the period in which an impairment is identified.

Research and Development

Research and development costs are expensed as incurred and consist of costs associated with research activities supporting our drug discovery efforts, compensation and related benefits, non-cash stock-based compensation, license fees, laboratory supplies and associated overhead and facility costs.

Income Taxes

Income taxes are accounted for under the asset and liability method. This approach requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of the differences between the tax basis of assets or liabilities and their carrying amounts in the financial statements using the enacted tax rates and laws that are anticipated to be in effect when the differences are expected to reverse. We provide a valuation allowance against net deferred tax assets if it is more likely than not that these items will either expire before we are able to realize their benefit or if future deductibility is uncertain.

In accordance with the accounting standards for uncertain tax positions, we evaluate the recognition threshold and measurement attribute criteria for the financial statement recognition and measurement of tax positions taken or expected to be taken in a tax return. For those benefits to be recognized, a tax position must be more likely than not to be sustained upon examination by taxing authorities.

Cash and Cash Equivalents

We classify time deposits and other investments that are highly liquid and have maturities of 90 days or less at the date of purchase as cash equivalents. The carrying amounts approximate fair value due to the short maturities of these instruments.

Concentrations of Credit Risk

Financial instruments that potentially subject us to significant concentrations of credit risk consist primarily of cash equivalents. We maintain deposits in federally insured financial institutions in excess of federally insured limits. We have not experienced any material losses in such accounts and believe we are not exposed to significant risk. We maintain our cash equivalents with two highly accredited financial institutions. We have historically invested our excess cash primarily in certificates of deposit and debt instruments of financial institutions and corporations, United States Treasury securities and United States government-sponsored enterprise securities. Additionally, we adhere to established guidelines regarding approved investments and maturities of investments, which are designed to preserve their principal value and maintain liquidity.

Property and Equipment

We carry our property and equipment at cost, which consists of lab equipment, computer equipment and software, furniture and fixtures and leasehold improvements. Property and equipment is depreciated using the straight-line method over the estimated useful lives (generally three to five years). Leasehold improvements are amortized over the lesser of their useful life or the remaining lease term, including any renewal periods that are deemed to be reasonably assured. Repair and maintenance costs that do not improve service potential or extend economic life are expensed as incurred.

Intangibles

We capitalize costs which consist principally of outside legal costs and filing fees related to obtaining patents. We review our capitalized patent costs periodically to determine that they include costs for patent applications that have future value and an alternative future use. We evaluate costs related to patents that we are not actively pursuing and write off these costs. We amortize patent costs over their patent lives, beginning with the date the patents are issued.

We obtain licenses from third parties and capitalize the costs related to exclusive licenses that have alternative future use within multiple potential programs. We amortize capitalized licenses over their estimated useful life or term of the agreement. We did not have any licenses capitalized on our balance sheet at December 31, 2020 and 2019.

Impairment of Long-Lived Assets

We regularly review the carrying amount of our property, equipment and intangible assets to determine whether indicators of impairment may exist which warrant adjustments to carrying values or estimated useful lives. If indications of impairment exist, projected future undiscounted cash flows associated with the asset are compared to the carrying amount to determine whether the asset’s value is recoverable. If the carrying value of the asset exceeds such projected undiscounted cash flows, the asset will be written down to its estimated fair value. No impairment charges were recorded during the years ended December 31, 2020 or 2019.

Segment Reporting

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision-maker in making decisions regarding resource allocation and assessing performance. To date, we have viewed our operations and managed our business as one segment operating primarily within the United States.

Comprehensive Loss

Comprehensive loss is defined as the change in equity during a period from transactions and other events and/or circumstances from non-owner sources. There were no transactions resulting in other comprehensive income or loss during the periods presented; as such, net loss equals other comprehensive loss for all periods presented.

Leases

At the inception of a contractual arrangement, we determine whether the contract contains a lease by assessing whether there is an identified asset and whether the contract conveys the right to control the use of the identified asset in exchange for consideration over a period of time. For operating leases with an initial term greater than 12 months, we recognize operating lease ROU assets and operating lease liabilities based on the present value of lease payments over the lease term at the commencement date. Operating lease ROU assets are comprised of the lease liability plus any lease payments made and excludes lease incentives. Lease terms include options to renew or terminate the lease when we are reasonably certain that the renewal option will be exercised or when it is reasonably certain that the termination option will not be exercised. For our operating leases, we generally cannot determine the interest rate implicit in the lease, in which case we use our incremental borrowing rate as the discount rate for the lease. We estimate our incremental borrowing rate for our operating leases based on what we would normally pay to borrow on a collateralized basis over a similar term for an amount equal to the lease payments. Operating lease expense is recognized on a straight-line basis over the lease term. Leases with an initial lease term of 12 months or less are not recorded on the balance sheet. Instead, we recognize lease expense for these leases on a straight-line basis over the lease term. Our lease agreements do not contain any material variable lease payments, residual value guarantees or restrictive covenants. Certain leases require us to pay taxes, insurance, utilities, and maintenance costs for the building, which do not represent lease components. We elected to not separate lease and non-lease components. Operating lease ROU assets are recorded within our balance sheets as other assets and operating lease liabilities are recorded within our balance sheets as other current liabilities and other long-term liabilities. Finance lease ROU assets are recorded in property and equipment, net and current and non-current finance lease liabilities are recorded in other current liabilities and other long-term liabilities, respectively, in our balance sheets.

Recent Accounting Pronouncements

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. Subsequently, in November 2018, the FASB issued ASU 2018-19, *Codification Improvements to Topic 326, Financial Instruments-Credit Losses*. ASU 2016-13 requires entities to measure all expected credit losses for most financial assets held at the reporting date based on an expected loss model which includes historical experience, current conditions, and reasonable and supportable forecasts. ASU 2016-13 also requires enhanced disclosures to help financial statement users better understand significant estimates and judgments used in estimating credit losses. This ASU is effective for smaller reporting companies for fiscal years beginning after December 15, 2022, with early adoption permitted. We are assessing the impact this standard will have on our financial statements and disclosures

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement: Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement*, which updates and modifies the disclosure requirements on fair value measurements in Topic 820, primarily in relation to Level 3 fair value measurements. This update is effective for annual periods beginning after December 15, 2019, and interim periods within those periods. The adoption of this guidance on January 1, 2020 did not have a material impact on our financial statements.

In November 2018, the FASB issued ASU No. 2018-18, *Collaborative Arrangements*, which clarifies the interaction between Topic 808, *Collaborative Arrangements* and *Topic 606*, including clarification around certain transactions between collaborative arrangement participants and adding unit-of-account guidance to Topic 808. This update is effective for annual periods beginning after December 15, 2019, and interim periods within those periods. The adoption of this guidance on January 1, 2020 did not have a material impact on our financial statements.

In December 2019, the FASB issued ASU No. 2019-12, *Income Taxes - Simplifying the Accounting for Income Taxes* (“ASU 2019-12”). The guidance removes exceptions to the general principles in *Income Taxes (Topic 740)* for allocating tax expense between financial statement components, accounting basis differences stemming from an ownership change in foreign investments and interim period income tax accounting for year-to-date losses that exceed projected losses. The guidance becomes effective for annual reporting periods beginning after December 15, 2020 and interim periods within those fiscal years with early adoption permitted. The adoption of this guidance on January 1, 2020 had no impact on our financial statements.

In March 2020, the FASB issued ASU No. 2020-04, *Reference Rate Reform (Topic 848)*, which provides guidance around reference rate reform initiatives to identify alternative reference rates that are more observable or transaction-based and less susceptible to manipulation in response to concerns about structural risks of interbank offered rates and the risk of cessation of the London Interbank Offered Rate ("LIBOR"). The amendments in the ASU provide option expedients and exceptions for applying GAAP to contracts, hedging relationships and other transactions affected by reference rate reform and apply only if such contracts, hedging relationships and other transactions that reference LIBOR or another reference rate are expected to be discontinued because of reference rate reform. The guidance does not apply to contract modifications made, and hedging

relationships entered into or evaluated, after December 31, 2022. We are assessing the impact this standard will have on our financial statements and disclosures.

2. Net Loss Per Share

Basic net loss per share is calculated by dividing net loss by the weighted average number of common shares outstanding for the period, without consideration for common stock equivalents. Diluted net loss per share is calculated by dividing net loss by the weighted-average number of common share equivalents outstanding for the period determined using the treasury-stock method or if-converted method. Dilutive common stock equivalents are comprised of stock options, restricted stock units and convertible preferred stock outstanding. For all periods presented, there is no difference in the number of shares used to calculate basic and diluted net loss per share.

Potentially dilutive securities not included in the calculation of diluted net loss per common share, because to do so would be anti-dilutive were (in common stock equivalent shares) 23,741,466 for the year ended December 31, 2020, consisting of convertible preferred stock, stock options and restricted stock units, and 6,569,337 for the year ended December 31, 2019, consisting of convertible preferred stock, stock options and restricted stock units.

3. Investments

Historically, we have invested our excess cash primarily in debt instruments of financial institutions, corporations, U.S. government-sponsored agencies and the U.S. treasury. We generally hold our investments until to maturity and do not sell our investments before we have recovered our amortized cost basis. As of December 31, 2020 and 2019, our cash balance was comprised entirely of cash and cash equivalents (money market funds) and there was no unrealized gain or loss in either period.

4. Fair Value Measurements

We have certain financial assets recorded at fair value which have been classified as Level 1, 2, or 3 within the fair value hierarchy as described in the accounting standards for fair value measurements.

Accounting standards define fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants as of the measurement date. Market participants are buyers and sellers in the principal market that are (i) independent, (ii) knowledgeable, (iii) able to transact, and (iv) willing to transact. The accounting standards provide an established hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the most observable inputs be used when available. Observable inputs are inputs that market participants would use in valuing the asset or liability and are developed based on market data obtained from independent sources. Unobservable inputs are inputs that reflect our assumptions about the factors that market participants would use in valuing the asset or liability. The accounting standards prioritize the inputs used in measuring the fair value into the following hierarchy:

- Level 1 includes financial instruments for which quoted market prices for identical instruments are available in active markets.
- Level 2 includes financial instruments for which there are inputs other than quoted prices included within Level 1 that are observable for the instrument such as quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets with insufficient volume or infrequent transactions (less active markets) or model-driven valuations in which significant inputs are observable or can be derived principally from, or corroborated by, observable market data.
- Level 3 includes financial instruments for which fair value is derived from valuation techniques in which one or more significant inputs are unobservable, including management's own assumptions.

Financial Assets Measured at Fair Value

The following table presents our fair value hierarchy for assets measured at fair value on a recurring basis as of December 31, 2020 and 2019 (in thousands):

	Fair value as of December 31, 2020			
	Total	Level 1	Level 2	Level 3
Assets:				
Cash equivalents (money market funds)	$ 26,901	$ 26,901	$ —	$ —
	$ 26,901	$ 26,901	$ —	$ —

	Fair value as of December 31, 2019			
	Total	Level 1	Level 2	Level 3
Assets:				
Cash equivalents (money market funds)	$ 8,909	$ 8,909	$ —	$ —
	$ 8,909	$ 8,909	$ —	$ —

We obtain pricing information from quoted market prices or quotes from brokers/dealers. We have historically determined the fair value of our investment securities using standard observable inputs, including reported trades, broker/dealer quotes, bids and/or offers.

5. Collaborations

Revenue recognized from our strategic collaborations was $10.0 million for the year ended December 31, 2020 and $6.8 million for the year ended December 31, 2019.

Sanofi

In July 2012, we amended and restated our collaboration and license agreement with Sanofi to expand the potential therapeutic applications of the *micro*RNA alliance targets to be developed under such agreement. We determined that the elements within the strategic collaboration agreement with Sanofi should be treated as a single unit of accounting because the delivered elements did not have stand-alone value to Sanofi. The following elements were delivered as part of the strategic collaboration with Sanofi: (1) a license for up to four *micro*RNA targets; and (2) a research license under our technology collaboration.

In June 2013, the original research term expired, upon which we and Sanofi entered into an option agreement pursuant to which Sanofi was granted an exclusive right to negotiate the co-development and commercialization of certain of our unencumbered *micro*RNA programs and we were granted the exclusive right to negotiate with Sanofi for co-development and commercialization of certain miR-21 anti-miRs in oncology and Alport syndrome. In July 2013, we received an upfront payment of $2.5 million, of which $1.25 million is creditable against future amounts payable by Sanofi to us under any future co-development and commercialization agreement we enter pursuant to the option agreement. Revenue associated with the creditable portion of this option payment was deferred as of December 31, 2017, and recorded as an adjustment to accumulated deficit upon our adoption of Topic 606 on January 1, 2018. The non-creditable portion of this payment, $1.25 million, was recognized as revenue over the option period from the effective date of the option agreement in June 2013 through the expiration of the option period in January 2014.

In February 2014, we and Sanofi entered into a second amended and restated collaboration and license agreement (the “2014 Sanofi Amendment”) to renew our strategic collaboration to discover, develop and commercialize *micro*RNA therapeutics to focus on specific orphan disease and oncology targets. Under the terms of the 2014 Sanofi Amendment, Sanofi had opt-in rights to our clinical fibrosis program targeting miR-21 for the treatment of Alport syndrome, our preclinical program targeting miR-21 for oncology indications, and our preclinical program targeting miR-221/222 for HCC. We were responsible for developing each of these programs to proof-of-concept, at which time Sanofi had an exclusive option on each program. If Sanofi chooses to exercise its option on any of these programs, Sanofi would reimburse us for a significant portion of our preclinical and clinical development costs and would also pay us an option exercise fee for any such program, provided that $1.25 million of the $2.5 million upfront option fee paid to us by Sanofi in connection with the June 2013 option agreement will be creditable against such option exercise fee. We are eligible to receive royalties on *micro*RNA therapeutic products commercialized by Sanofi and will have the right to co-promote these products relating to our preclinical program targeting miR-221/222. As indicated below, we entered into an additional amendment with Sanofi in November 2018, under which Sanofi's opt-in rights to our miR-21 programs under the 2014 Sanofi Amendment were relinquished. Sanofi's opt-in rights with regard to our miR-221/222 preclinical program under the 2014 Sanofi Amendment remained unchanged.

In connection with the 2014 Sanofi Amendment, we entered into a Common Stock Purchase Agreement (the " Sanofi Purchase Agreement"), pursuant to which we sold 108,648 shares of our common stock to Aventisub LLC ("Aventis"), an entity affiliated with Sanofi, in a private placement at a price per share of $92.04 for an aggregate purchase price of $10.0 million. Under the terms of the Sanofi Purchase Agreement, Aventis was not permitted to sell, transfer, make any short sale of, or grant any option for the sale of any common stock for the 12-month period following its effective date. The Sanofi Purchase Agreement and the 2014 Sanofi Amendment were negotiated concurrently and were therefore evaluated as a single agreement. Based upon restricted stock studies of similar duration and a Black-Scholes valuation to measure the discount for lack of marketability, approximately $0.4 million of the proceeds from the Sanofi Purchase Agreement was attributed to the 2014 Sanofi Amendment, and represents consideration for the value of the program targeting miR-221/222 for HCC. We recognized the $0.4 million allocated consideration into revenue ratably over the estimated period of performance of the miR-221/222 program.

We are eligible to receive milestone payments related to the development and commercialization of miR-221/222 for HCC of up to $38.8 million for proof-of-concept option exercise fees (net of $1.25 million creditable, as noted above), $25.0 million for clinical milestones and up to $130.0 million for regulatory and commercial milestones. In addition, we are entitled to receive royalties based on a percentage of net sales of any products from the miR-221/222 program which, in the case of sales in the United States, will be in the middle of the 10% to 20% range, and, in the case of sales outside of the United States, will range from the low end to the middle of the 10% to 20% range, depending upon the volume of sales. If we exercise our option to co-promote a miR-221/222 product, we will continue to be eligible to receive royalties on net sales of each product in the United States at the same rate, unless we elect to share a portion of Sanofi's profits from sales of such product in the United States in lieu of royalties.

In November 2018, we entered into an amendment to the 2014 Sanofi Amendment with Sanofi to modify the parties' rights and obligations with respect to our miR-21 programs, including our RG-012 program (the "2018 Sanofi Amendment"). Under the terms of the 2018 Sanofi Amendment, we have granted Sanofi a worldwide, royalty-free, fee-bearing, exclusive license, with the right to grant sublicenses, under our know-how and patents to develop and commercialize miR-21 compounds and products for all indications, including Alport Syndrome. Sanofi will control and will assume all responsibilities and obligations for developing and commercializing each of our miR-21 programs, including our obligations regarding the administration and expense of clinical trials and all other costs, including in-license royalties and other in-license payments, related to our miR-21 programs. Under the terms of the 2018 Sanofi Amendment, we have assigned to Sanofi certain agreements, product-specific patents and all materials directed to miR-21 or to any miR-21 compound or product and are required to provide reasonable technical assistance to Sanofi for a period of 24 months after the date of the 2018 Sanofi Amendment. Under the terms of the 2018 Sanofi Amendment, we were eligible to receive approximately $6.8 million in upfront payments for the license and for miR-21 program-related materials (collectively, the "Upfront Amendment Payments"). We were also eligible to receive up to $40.0 million in development milestone payments, including a $10.0 million payment for an interim enrollment milestone (the "Enrollment Milestone"). In addition, Sanofi has agreed to reimburse us for certain out-of-pocket transition activities and assume our upstream license royalty obligations. We and Sanofi also agreed to a general release of claims against each other for any claims that arose at any time prior to the date of the 2018 Sanofi Amendment, or that thereafter could arise based on anything that occurred prior to the date of the 2018 Sanofi Amendment. In 2019, we completed the performance obligations under the 2018 Sanofi Amendment and recognized revenue for the $6.8 million in Upfront Amendment Payments. As of December 31, 2019, the $40.0 million in development milestone payments (variable consideration) was fully constrained and therefore, did not meet the criteria for revenue recognition.

In August 2020, we entered into an amendment to the 2018 Sanofi Amendment (the "2020 Sanofi Amendment"). Under the terms of the 2020 Sanofi Amendment, we agreed to transfer to Sanofi additional RG-012 development program materials (the "Materials") in exchange for a payment from Sanofi of $1.0 million (the "Transfer Payment"). In addition, in lieu of the $10.0 million Enrollment Milestone under the 2018 Sanofi Amendment, Sanofi agreed to pay us a $4.0 million milestone upon the completion of the transfer and verification of the Materials, and $5.0 million upon achievement of the Enrollment Milestone. Additionally, we are eligible to receive $25.0 million upon achievement of an additional development milestone related to Sanofi's development of the miR-21 compounds. In September 2020, we received $1.0 million in exchange for the transfer of the Materials to Sanofi, and received an additional $4.0 million in October 2020 as a result of Sanofi's completion and verification of the Materials in September 2020. As the performance obligations associated with both of these payments had been satisfied under Topic 606 as of September 30, 2020, both amounts were recognized as revenue in the third quarter of 2020. In November 2020, we received $5.0 million upon achievement of the Enrollment Milestone. As the performance obligations associated with this payment had been satisfied under Topic 606 as of December 31, 2020, this amount was recognized as revenue in the fourth quarter of 2020.

As of December 31, 2020, the $25.0 million development milestone payment (variable consideration) is fully constrained and therefore, does not meet the criteria for revenue recognition.

6. Property and Equipment, net

The following table summarizes our major classes of property and equipment (in thousands):

	December 31,	
	2020	2019
Laboratory equipment	$ 4,967	$ 4,967
Computer equipment and software	281	281
Furniture and fixtures	—	—
Leasehold improvements	83	83
	5,331	5,331
Less accumulated depreciation and amortization	(4,859)	(4,410)
Property and equipment, net	$ 472	$ 921

Depreciation and amortization of property and equipment of $0.5 million and $0.9 million was recorded for the years ended December 31, 2020 and 2019, respectively.

7. Intangible Assets, net

The following table summarizes our major classes of intangible assets (in thousands):

	December 31,	
	2020	2019
Patents	$ 219	$ 465
Accumulated amortization - Patents	(94)	(199)
Intangibles, net	$ 125	$ 266

Intangible asset amortization of less than $0.1 million was recorded for the years ended December 31, 2020 and 2019. Amortization of intangible assets over the next five years is expected to be less than $0.1 million per year. The weighted-average period over which the amortization remaining at December 31, 2020 is expected to be recognized is approximately 13.9 years.

8. Commitments and Contingencies

License Agreements

We have license agreements with third parties that require us to make annual license maintenance payments and future payments upon the success of licensed products that include milestones and/or royalties. Minimum future payments over the next five years are not material.

9. Debt

On June 17, 2016, we entered into a loan and security agreement ("Loan Agreement") with Oxford Finance, LLC, ("Oxford" or sometimes referred to as the "Lender"), pursuant to which we received $20.0 million in proceeds, net of debt issuance costs on June 22, 2016 (the "Term Loan").

The outstanding Term Loan will mature on May 1, 2022 (the "Maturity Date") and bears interest at a floating per annum rate equal to (i) 8.51% plus (ii) the greater of (a) the 30 day U.S. Dollar LIBOR rate reported in *The Wall Street Journal* on the last business day of the month that immediately precedes the month in which the interest will accrue and (b) 0.44%. Under the original Loan Agreement, we were required to make interest-only payments through June 1, 2018, followed by 24 equal monthly payments of principal and unpaid accrued interest.

In August 2018, we and Oxford entered into an amendment to our Loan Agreement, providing for a modification of the loan amortization period. Under the terms of the amendment, principal amortization and repayment was deferred between August 2018 through October 2018, and during this period, we were required to make payments of interest-only. Amortization payments recommenced in November 2018. Pursuant to the amendment, we granted the Lender a security interest in our intellectual property as additional collateral for the repayment of the Term Loan.

In November 2018, and in connection with the 2018 Sanofi Amendment, we entered into a fourth amendment to the Loan Agreement with the Lender (the "Fourth Amendment"). Under the terms of the Fourth Amendment, the Lender consented to the 2018 Sanofi Amendment and our license, assignment and transfer to Sanofi of certain of our intellectual property, as required to be delivered to Sanofi under the 2018 Sanofi Amendment (the “Assigned Assets”), which previously served as collateral under the Loan Agreement, and released its liens in the Assigned Assets, provided that the Lender will continue to have liens on all proceeds received by us pursuant to our collaboration and license agreement with Sanofi dated February 4, 2014 (the “Sanofi License Agreement”). Under the terms of the Fourth Amendment, we have the option to prepay part of the Term Loan at any time and in any amount after 10 days’ prior written notice. We are also required to prepay a portion of the Term Loan with 25% of certain payments we receive under the 2018 Sanofi Amendment, which payments consist of the Upfront Amendment Payments and the first development milestone payment in the amount of $10.0 million. In accordance with this term, we prepaid $0.6 million pursuant to our receipt of $2.5 million in Upfront Amendment Payments in November 2018. Additionally, we prepaid $0.4 million pursuant to our receipt of $1.8 million in Upfront Amendment Payments in March 2019. We are required to pay the applicable 5.5% final payment fee related to each such 2018 Sanofi Amendment prepayment.

On January 31, 2019, we entered into a fifth amendment to the Loan Agreement with the Lender (the "Fifth Amendment"). Under the terms of the Fifth Amendment, our required monthly payment to the Lender for the month of February 2019 was comprised of interest only. On March 7, 2019, we entered into a sixth amendment to the Loan Agreement with the Lender (the "Sixth Amendment"). Under the terms of the Sixth Amendment, our required monthly payment to the Lender for the month of March 2019 was comprised of interest only.

On April 9, 2019 we entered into a seventh amendment to the Loan Agreement with the Lender (the "Seventh Amendment"). Under the terms of the Seventh Amendment, our required monthly payments to the Lender were to be comprised of interest only through and including the payment date immediately preceding the following date (the “Second Amortization Date”): (i) April 1, 2019, if we did not receive unrestricted gross cash proceeds of not less than $10 million on or before April 30, 2019 from (a) the issuance and sale of our unsecured subordinated convertible debt and/or equity securities and/or (b) “up front” or milestone payments in connection with a joint venture, collaboration or other partnering transaction other than pursuant to the Sanofi License Agreement (the receipt of such net proceeds, the “ Seventh Amendment Capital Event”), and (ii) May 1, 2019, if the Seventh Amendment Capital Event occurs. The Seventh Amendment Capital event did not occur on or before April 30, 2019.

Commencing on the Second Amortization Date, and continuing on each successive payment date thereafter, we were to be required to make consecutive equal monthly payments of principal, together with applicable interest, in arrears, to the Lender; provided, however, that we were required to make the monthly principal payment due April 1, 2019 on May 1, 2019 (in addition to all other payments due on May 1, 2019) if the Seventh Amendment Capital Event did not occur. The Seventh Amendment also provided that we can irrevocably elect to increase the prepayment percentage for the funds that we are required to prepay under the Term Loan in the event we receive $10.0 million from the first development milestone under the Enrollment Milestone from 25% to 75% (the “Applicable Sanofi Percentage”). Under the Seventh Amendment, we are required to maintain cash in a collateral account controlled by the Lender of (i) $10.0 million if the Applicable Sanofi Percentage is 25% and if we had not prepaid an aggregate of $5 million under the Term Loan (which amount shall not include any Sanofi License Agreement prepayments) on or before April 30, 2019 (such prepayment, the “Principal Paydown Event”), (ii) $5.0 million if the Applicable Sanofi Percentage is 75% and the Principal Paydown Event had not occurred and (iii) zero if the Principal Paydown Event had occurred.

On May 3, 2019, concurrently with our Securities Purchase Agreement dated May 2019 (the "May 2019 SPA") (as described in further detail in Note 10), we entered into an eighth amendment to the Loan Agreement with the Lender (the "Eighth Amendment"). Pursuant to the terms of the Eighth Amendment and as a result of the completion of the initial closing under the May 2019 SPA, our required monthly payments to the Lender were comprised of interest only from May 2019 through and including the payment to be made in April 2020, in exchange for an interest-only period extension fee of $0.1 million. Additionally, under the Eighth Amendment, the Term Loan maturity date was extended from June 2020 to May 2022, in exchange for a maturity date extension fee of $0.7 million. Pursuant to the Eighth Amendment, as a result of our receipt of over $20.0 million in capital in December 2019 under the second and final closing under the May 2019 SPA, our required monthly payments to the Lender are comprised of interest only through and including the payment to be made in April 2021. Commencing in May 2021, and continuing on each successive payment date thereafter, we are required to make consecutive equal monthly payments of principal, together with applicable interest, in arrears, to the Lender. The Eighth Amendment also provides for an increase in the prepayment percentage for the funds that we are required to prepay under the Term Loan, in the event that we receive the $10.0 million Enrollment Milestone, from 75% to 100% of the Milestone Payment. Upon payment of the Milestone Payment to the Lender, we will no longer be required to maintain cash in a collateral account controlled by Lender and the positive lien on our intellectual property will be released.

On May 1, 2020 we entered into a ninth amendment to the Term Loan with the Lender (the “Ninth Amendment”). Pursuant to the terms of the Ninth Amendment, (i) the approximately $0.7 million of loan proceeds (the "PPP Loan") we received under the Paycheck Protection Program ("PPP") was included as permitted indebtedness under the terms of the Term Loan, (ii) we agreed to apply for forgiveness of the maximum amount of PPP Loan permissible in accordance with the Coronavirus Aid, Relief, and Economic Security Act (the “CARES Act”) and use best efforts to cause not less than $0.5 million of the PPP Loan to be forgiven by the PPP Loan lender on or before September 30, 2020 and (iii) we agreed not to amend any material provision in any document relating to the PPP Loan nor make any prepayment of the PPP Loan unless such prepayment is necessary or advisable due to change in the applicable law or guidance issued by the U.S. Small Business Administration (“SBA”).

On August 25, 2020 we entered into a tenth amendment to the Term Loan with the Lender (the "Tenth Amendment"). Pursuant to the terms of the Tenth Amendment, we are eligible for up to an additional seven months of interest only payments in the event we paid down $10 million in loan principal before April 30, 2021 (the "Principal Paydown Event"). In the event the Principal Paydown Event did not occur by April 30, 2021, we would make principal and accrued interest payments, in arrears, commencing May 1, 2021, in accordance with the terms of the Eighth Amendment. If the Principal Paydown Event occured after April 30, 2021 but on or before July 31, 2021, we would recommence an extended interest only payment period through December 31, 2021. In the event we received the additional interest only period, principal and accrued interest payments would recommence on January 1, 2022.

We received $1.0 million, $4.0 million and $5.0 million in proceeds from Sanofi (see Note 7) on September 30, 2020, October 8, 2020 and November 30, 2020, respectively. Under the terms of the Tenth Amendment, we prepaid $1.0 million, $4.0 million and $5.0 million of outstanding principal to the Lender on September 30, 2020, October 8, 2020 and November 30, 2020, respectively, for a total of $10.0 million. We also paid the applicable 5.5% final payment fees related to the three prepayments to the Lender. As the Principal Paydown Event occurred by April 30, 2021, we received an additional seven months of interest only payment extension and are not obligated to make principal payments on the Term Loan until January 1, 2022.

We used the proceeds from the Term Loan solely for working capital and to fund our general business requirements. Our obligations under the Loan Agreement are secured by a first priority security interest in substantially all of our current and future assets, other than our intellectual property, for which Oxford currently has a positive lien, and certain assets under finance lease obligations. We have also agreed not to encumber our intellectual property assets, except as permitted by the Loan Agreement. The Loan Agreement includes customary events of default, including instances of a material adverse change in our operations, that may require prepayment of the outstanding Term Loan. During the period after December 31, 2020, we received a waiver from the Lender with respect to noncompliance with a covenant under the Loan Agreement and are in compliance with all Loan Agreement covenants as of the date of the filing of this Form 10-K.

As of December 31, 2020, $4.7 million was outstanding under the Term Loan. An additional $1.3 million is also payable at the conclusion of the Term Loan (presented in other current liabilities on our balance sheet at December 31, 2020). We had less than $0.1 million of debt issuance costs outstanding as of December 31, 2020, which are being accreted to interest expense over the life of the Term Loan using an effective interest rate of 8.98%. The exit fees are being accrued over the life of the Term Loan through interest expense.

As of December 31, 2020, future principal payments for the Term Loan due under the Loan Agreement are as follows (in thousands):

2021	—
2022	4,681
	$ 4,681

Paycheck Protection Program Loan

On April 23, 2020, we received the proceeds from the PPP Loan in the amount of approximately $0.7 million from Silicon Valley Bank, as lender, pursuant to the PPP of the CARES Act. The PPP Loan matures on April 23, 2022 and bears interest at a rate of 1.0% per annum. The PPP Loan is evidenced by a promissory note dated April 23, 2020, which contains customary events of default relating to, among other things, payment defaults and breaches of representations and warranties. The PPP Loan may be prepaid by us at any time prior to maturity with no prepayment penalties.

All or a portion of the PPP Loan may be forgiven by the SBA upon our application and upon documentation of expenditures in accordance with the SBA requirements. Under the CARES Act and PPP Flexibility Act, loan forgiveness is available for the sum of documented payroll costs, covered mortgage interest, covered rent payments and covered utilities

during the 24 week period beginning on the date of loan disbursement. For purposes of the PPP, payroll costs exclude compensation of an individual employee in excess of $100,000, annualized, prorated for the covered period. Not more than 40% of the forgiven amount may be for non-payroll costs. Forgiveness is reduced if full-time headcount declines during the covered period as compared to specified reference periods, or if salaries and wages for employees with salaries of $100,000 or less annually are reduced by more than 25%, unless certain safe harbors are satisfied. In the event the PPP Loan, or any portion thereof, is forgiven pursuant to the PPP, the amount forgiven is applied to outstanding principal and includes accrued interest.
We have used all proceeds from the PPP Loan to retain employees, maintain payroll and make lease and utility payments, and are seeking forgiveness in accordance with the program. The $0.7 million proceeds from the PPP Loan is presented in other current liabilities on our balance sheet at December 31, 2020.

10. Stockholders' Equity

Common Stock

As of December 31, 2020, there were 67,432,712 shares of common stock outstanding. Each share of common stock is entitled to one vote. The holders of the common stock are also entitled to receive dividends whenever funds are legally available and when declared by our Board of Directors.

2019 Equity Incentive Plan

On June 15, 2019 the Company's board of directors approved, and on August 1, 2019 the Company's stockholders approved, the Company's 2019 Equity Incentive Plan (the "2019 Plan"). The 2019 Plan is intended as the successor to and continuation of the Company's 2012 Equity Incentive Plan. As of December 31, 2020, 868,432 shares of common stock were available for new equity award grants under the 2019 Plan and 6,847,361 shares of common stock are reserved for issuance pursuant to equity awards outstanding as of December 31, 2020. The number of shares authorized for issuance under the 2019 Plan may be increased by (a) the shares subject to outstanding stock awards granted under the Company's 2009 Equity Incentive Plan (the "2009 Plan") and the Company's 2012 Equity Incentive Plan (together the with 2009 Plan, the "Prior Plans") that on or after the effective date of the 2019 Plan (i) expire or terminate for any reason prior to exercise or settlement; (ii) are forfeited because of the failure to meet a contingency or condition required to vest such shares or otherwise return to the Company, or (iii) are reacquired, withheld (or not issued) to satisfy a tax withholding obligation in connection with an award or to satisfy the purchase price or exercise price of a stock award. No further grants will be made under the Prior Plans. In addition, on January 22, 2020, an additional 4,166,860 shares of common stock became available for issuance under the 2019 Plan pursuant to the Milestone Closing of the May 2019 SPA. Further, on January 1st of each year, for a period of not more than ten years, beginning on January 1, 2021 and continuing through January 1, 2029, the number of shares authorized for issuance under the 2019 Plan will increase by 5.0% of the total number of shares of our capital stock outstanding on December 31 of the preceding calendar year, or a lesser number of shares as may be determined by our Board of Directors.

Private Placements of Common Stock, Non-Voting Preferred Stock and Warrants

On May 3, 2019, we entered into the May 2019 SPA with certain institutional and other accredited investors, including certain directors, executive officers and employees of the Company (the "Purchasers"), pursuant to which we agreed to sell and issue shares of our common stock, shares of our newly designated non-voting convertible preferred stock, and warrants to purchase common stock, in up to two closings, in a private placement transaction (the "Private Placement").

At an initial closing under the May 2019 SPA that occurred on May 7, 2019 (the "Initial Closing"), we sold and issued to the Purchasers (i) 9,730,534 shares of common stock and accompanying warrants to purchase up to an aggregate of 9,730,534 shares of common stock at a combined purchase price of $1.205 per share, and (ii) 415,898 shares of non-voting Class A-1 convertible preferred stock, in lieu of shares of common stock, at a price of $10.80 per share, and accompanying warrants to purchase an aggregate of 4,158,980 shares of common stock at a price of $0.125 for each share of common stock underlying such warrants. Total gross proceeds from the Initial Closing were approximately $16.7 million, which does not include any proceeds that may be received upon exercise of the warrants. Each share of non-voting Class A-1 convertible preferred stock is convertible into 10 shares of Common Stock, subject to certain beneficial ownership conversion limitations. The warrants are exercisable for a period of five years following the date of issuance and have an exercise price of $1.08 per share, subject to proportional adjustments in the event of stock splits or combinations or similar events. The warrants are exercisable on a net exercise "cashless" basis. An aggregate of 526,083 shares of common stock and warrants to purchase up to 526,083 shares of common stock were purchased for $0.6 million by certain directors and executive officers of the Company under the Initial Closing.

Pursuant to the May 2019 SPA, in the event our Board of Directors unanimously resolves to recommence our Phase 1 multiple ascending dose clinical trial of our RGLS4326 product candidate for the treatment of ADPKD") (the “Phase 1 Trial”) based on correspondence from the U.S. Food and Drug Administration’s Division of Cardiovascular and Renal Products, and thereafter but on or before December 31, 2019 we make a public announcement of our plan to recommence the Phase 1 Trial (the “Public Announcement”), we may sell and the Purchasers may purchase, at a second closing under the May 2019 SPA (“Milestone Closing”), shares of our non-voting convertible preferred stock and accompanying warrants to purchase shares of Common Stock (collectively, “Milestone Securities”). On December 15, 2019, the Company’s Board of Directors unanimously resolved to recommence the Phase 1 Trial based on correspondence from the U.S. Food & Drug Administration’s Division of Cardiovascular and Renal Products and on December 16, 2019, we made the related Public Announcement, triggering the Milestone Closing, which occurred on December 24, 2019. At the Milestone Closing, we sold and issued to the Purchasers 3,288,390 shares of non-voting Class A-2 convertible preferred stock and accompanying warrants to purchase an aggregate of 32,883,900 shares of common stock for an aggregate purchase price of approximately $26.0 million. Net proceeds to the Company from the Milestone Closing were approximately $24.6 million. Each share of non-voting Class A-2 convertible preferred stock is convertible into 10 shares of Common Stock, subject to certain beneficial ownership conversion limitations. The warrants will be exercisable for a period of five years following the date of issuance and have an exercise price of $0.666 per share, subject to proportional adjustments in the event of stock splits or combinations or similar events. The warrants are exercisable on a net exercise “cashless” basis. An aggregate of 121,581 shares of Class A-2 convertible preferred stock and warrants to purchase up to 1,215,810 shares of common stock were purchased for approximately $1.0 million by certain directors and executive officers of the Company under the Milestone Closing.

We evaluated the non-voting Class A-1 convertible preferred stock and common stock warrants sold in the Initial Closing and the Class A-2 convertible preferred stock and common stock warrants sold in the Milestone Closing under ASC 480, Distinguishing Liabilities from Equity, and ASC 815, Derivatives and Hedging, and determined permanent equity treatment was appropriate for these freestanding financial instruments. The Initial Closing and Milestone Closing did not include any embedded features that required bifurcation. The non-voting Class A-2 convertible preferred stock and warrants issuable under the Milestone Closing were not subject to accounting recognition until the Milestone Closing occurred, as the terms of the Milestone Closing did not provide a right or an obligation on either the Company nor the Purchasers.

On December 1, 2020, we entered into a Securities Purchase Agreement (the "December 2020 SPA") with certain institutional and other accredited investors, including certain directors, executive officers and employees of the Company (the “2020 Purchasers”), pursuant to which we agreed to sell and issue shares of our common stock, shares of newly designated non-voting convertible preferred stock and warrants to purchase common stock (the “2020 PIPE”).

At the closing under the December 2020 SPA that occurred on December 4, 2020 (the “2020 Closing”), we sold and issued to the 2020 Purchasers (i) 24,341,607 shares of common stock and accompanying warrants to purchase up to an aggregate of 18,256,204 shares of common stock at a combined purchase price of $0.7464 per share, and (ii) 272,970 shares of non-voting Class A-3 convertible preferred stock, in lieu of shares of common stock, at a price of $6.22 per share, and accompanying warrants to purchase an aggregate of 2,047,276 shares of common stock at a price of $0.125 for each share of common stock underlying such warrants. Total gross proceeds from the 2020 Closing were approximately $19.4 million, which does not include any proceeds that may be received upon exercise of the warrants. Each share of non-voting Class A-3 convertible preferred stock is convertible into 10 shares of common stock, subject to certain beneficial ownership conversion limitations. The warrants are exercisable for a period of five years following the date of issuance and have an exercise price of $0.622 per share, subject to proportional adjustments in the event of stock splits or combinations or similar events. The warrants are exercisable on a net exercise "cashless" basis. An aggregate of 833,208 shares of common stock and warrants to purchase up to 624,906 shares of common stock were purchased for $0.6 million by certain directors and executive officers of the Company at the 2020 Closing.

We evaluated the non-voting Class A-3 convertible preferred stock and common stock warrants sold in the 2020 PIPE under ASC 480, Distinguishing Liabilities from Equity, and ASC 815, Derivatives and Hedging, and determined permanent equity treatment was appropriate for these freestanding financial instruments and there were no embedded features that required bifurcation.

The following table summarizes preferred stock conversions and warrant exercises (and the related impact on common stock) under the 2019 SPA and 2020 SPA for the years ended December 31, 2020 and 2019 (in thousands):

	Class A-1 Convertible Preferred Stock	Class A-2 Convertible Preferred Stock	Class A-3 Convertible Preferred Stock	Warrants	Common Stock
Balance at December 31, 2018	—	—	—	—	—
Initial Closing	416	—	—	13,890	9,731
Milestone Closing	—	3,288	—	32,884	—
Conversions/Exercises	—	—	—	—	—
Balance at December 31, 2019	416	3,288	—	46,774	9,731
2020 Closing	—	—	273	20,303	24,342
Conversions/Exercises	(159)	(1,872)	(14)	(1,039)	21,493
Balance at December 31, 2020	257	1,416	259	66,038	55,566

ATM Offering

On December 12, 2018, we entered into a Common Stock Sales Agreement (the "Stock Sales Agreement") with H.C. Wainwright & Co., LLC ("HCW"), pursuant to which we may sell and issue shares of our common stock from time to time through HCW, as our sales agent (the "ATM Offering"). We have no obligation to sell any shares of common stock in the ATM Offering, and may at any time suspend offers under the Stock Sales Agreement or terminate the Stock Sales Agreement. Subject to the terms and conditions of the Stock Sales Agreement, HCW will use its commercially reasonable efforts to sell shares of our common stock from time to time based upon our instructions (including any price, time or size limits or other parameters or conditions the we may impose, subject to certain restrictions). We pay HCW a commission of 3.0% of the gross sales price of any shares sold under the Stock Sales Agreement. A total of 492,268 shares were sold and settled for proceeds of $0.3 million (net of less than $0.1 million in commissions) under the ATM Offering during the year ended December 31, 2020. We sold a total of 309,485 shares for proceeds of $0.4 million (net of less than $0.1 million in commissions) under the ATM Offering during the year ended December 31, 2020 that had not been settled as of December 31, 2020. Those shares were settled as of January 5, 2021. A total of 1,903,880 shares were sold for proceeds of $2.1 million (net of approximately $0.1 million in commissions) under the ATM Offering during the year ended December 31, 2019. At December 31, 2020, approximately $7.1 million remained eligible to be drawn down under the ATM Offering. A total of 3,096,003 shares were sold under the ATM Offering subsequent to December 31, 2020 for proceeds of $4.4 million (net of approximately $0.1 million in commissions). The ATM Offering is no longer available for use.

Shares Reserved for Future Issuance

The following shares of common stock were reserved for future issuance as of December 31, 2020 (in thousands):

Class A-1 convertible preferred stock outstanding (as-converted)	2,567
Class A-2 convertible preferred stock outstanding (as-converted)	14,165
Class A-3 convertible preferred stock outstanding (as-converted)	2,587
2019 PIPE Initial Closing warrants	13,890
2019 PIPE Milestone Closing warrants	31,845
2020 PIPE warrants	20,303
Common stock options outstanding	6,813
RSUs outstanding	34
Common stock available for future grant under the 2019 Equity Incentive Plan	868
Employee Stock Purchase Plan	188
Total common shares reserved for future issuance	93,260

The following table summarizes our stock option activity under all equity incentive plans for the year ended December 31, 2020 (shares and aggregate intrinsic value in thousands):

	Number of options	Weighted average exercise price	Weighted average remaining contractual term	Aggregate intrinsic value
Options outstanding at December 31, 2019	3,098	$ 1.17		
Granted	3,889	$ 1.19		
Exercised	(7)	$ 0.70		
Canceled/forfeited/expired	(167)	$ 4.63		
Options outstanding at December 31, 2020	6,813	$ 1.10	8.57	$ 2,662
Exercisable at December 31, 2020	1,953	$ 1.33	7.51	$ 971

The weighted average grant date fair value per share of employee stock options granted during the years ended December 31, 2020 and 2019 was $0.91 and $0.52, respectively.

The total intrinsic value of stock options exercised was less than $0.1 million for the years ended December 31, 2020 and 2019. Cash received from the exercise of stock options was less than $0.1 million for the years ended December 31, 2020 and 2019.

The total compensation cost related to stock options not yet recognized was $1.8 million as of December 31, 2020. The weighted-average period over which this expense is expected to be recognized is approximately 2.1 years.

The following table summarizes our RSU activity under all equity incentive plans for the year ended December 31, 2020 (shares and aggregate intrinsic value in thousands):

	Number of options	Weighted average grant date fair value	Weighted average remaining contractual term	Aggregate intrinsic value
RSUs outstanding at December 31, 2019	129	$ 1.50		
Granted	—	$ —		
Vested	(76)	$ 1.50		
Canceled/forfeited/expired	(19)	$ 1.50		
RSUs outstanding at December 31, 2020	34	$ 1.50	0.25	$ 46

The total compensation cost related to non-vested RSUs not yet recognized was $0.1 million as of December 31, 2020. The weighted-average period over which this expense is expected to be recognized is approximately 0.3 years

Stock-Based Compensation

The following table summarizes the weighted average assumptions used to estimate the fair value of stock options and performance stock awards granted to employees under our 2012 Equity Incentive Plan, 2015 Inducement Plan, 2019 Equity Incentive Plan and the shares purchasable under our Employee Stock Purchase Plan during the periods presented:

	Year ended December 31,	
	2020	2019
Stock options		
Risk-free interest rate	1.1 %	1.7 %
Volatility	95.4 %	94.6 %
Dividend yield	—	—
Expected term (years)	6.1	6.1
Performance stock options		
Risk-free interest rate	1.4 %	2.6 %
Volatility	95.4 %	93.8 %
Dividend yield	—	—
Expected term (years)	6.1	6.1
Employee stock purchase plan shares		
Risk-free interest rate	0.6 %	2.3 %
Volatility	98.0 %	110.5 %
Dividend yield	—	—
Expected term (years)	0.5	0.5

Risk-free interest rate - The risk-free interest rate assumption was based on observed interest rates appropriate for the expected term of the stock option grants.

Expected dividend yield - The expected dividend yield assumption was based on the fact that we have never paid cash dividends and have no present intention to pay cash dividends.

Expected volatility - The expected volatility assumption was based on the historical volatility of the trading price of our common stock.

Expected term - The expected term represents the period of time that options are expected to be outstanding. Because we do not have sufficient historical exercise behavior data, we determine the expected life using the simplified method, which was an average of the contractual term of the option and its ordinary vesting period.

Forfeitures - We account for forfeitures as they occur.

The following table summarizes the allocation of our stock-based compensation expense for all stock awards during the periods presented (in thousands):

	Year ended December 31,	
	2020	2019
Research and development	$ 693	$ 309
General and administrative	1,921	1,979
Total	$ 2,614	$ 2,288

Employee Stock Purchase Plan

In October 2012, we adopted the 2012 Employee Stock Purchase Plan (“2012 Purchase Plan”), which enables participants to contribute up to 15% of such participant’s eligible compensation during a defined six-month period to purchase our common stock. The purchase price of common stock under the 2012 Purchase Plan will be the lesser of: (i) 85% of the fair market value of our common stock at the inception of the enrollment period or (ii) 85% of the fair market value of our common stock at the applicable purchase date. As of December 31, 2020, 96,946 shares of our common stock had been issued under the 2012 Purchase Plan, with 4,998 shares of common stock issued for the year ended December 31, 2020. Under the 2012 Purchase Plan, 187,689 shares of our common stock were reserved for future issuance and have been authorized for purchase as of December 31, 2020.

11. Defined Contribution Plan

In 2009, we established an employee 401(k) salary deferral plan ("401(k) Plan") covering all eligible employees. Active employees who are at least 18 years old and are not otherwise disqualified under the terms of the 401(k) Plan are eligible to participate. Employees may contribute up to 50% of their compensation per year (subject to a maximum limit prescribed by federal tax law). Under the 401(k) Plan, we may elect to match a discretionary percentage of employee contributions. We elected to match 50% of employees' contributions up to 6% of the employees' eligible salary for the periods presented. We made matching contributions of $0.1 million for the years ended December 31, 2020 and 2019.

12. Income Taxes

The following table summarizes the components of our income tax (benefit) expense (in thousands):

	Year ended December 31,	
	2020	2019
Current:		
Federal	$ (13)	$ (13)
State	1	1
	(12)	(12)
Deferred:		
Federal	12	13
State	—	—
	12	13
Income tax expense	$ —	$ 1

The following is a reconciliation of the expected statutory federal income tax provision to our actual income tax provision (in thousands):

	Year ended December 31,	
	2020	2019
Expected income tax benefit at federal statutory tax rate	$ (3,309)	$ (3,904)
State income taxes, net of federal benefit	(927)	(1,390)
Tax credits	(1,216)	(374)
Change in valuation allowance	2,606	603
Return to provision adjustments	(14)	(358)
Stock compensation	1,644	3,934
Reserve for uncertain tax positions	1,179	1,444
Other	37	46
Income tax expense	$ —	$ 1

The following table summarizes the significant components of our deferred tax assets and liabilities (in thousands):

	December 31,	
	2020	2019
Deferred tax assets:		
Net operating loss carryovers	$ 82,747	$ 79,675
Research and development and other tax credits	34,337	33,429
Deferred revenue	—	1
Intangibles and property and equipment basis difference	715	782
Stock compensation expense	283	1,389
Lease liability	88	164
Other	281	461
Total deferred tax assets	118,451	115,901
Total deferred tax liabilities	(282)	(325)
Net deferred tax asset	118,169	115,576
Valuation allowance	(118,169)	(115,564)
Net deferred tax asset	$ —	$ 12

For all periods presented, we have determined that it is more likely than not that our deferred tax asset will not be realized, with the exception of the refundable AMT tax credit. Accordingly, we have recorded a valuation allowance to offset the net deferred tax asset of $118.2 million.

As of December 31, 2020, we had NOL carryforwards for U.S. federal and California state tax purposes of $342.4 million and $289.2 million, respectively, portions of which begin to expire in 2030 and 2031, respectively. Our federal NOL carryforwards generated in tax years beginning after December 31, 2017, of $79.0 million will carry forward indefinitely. On March 27, 2020, the CARES Act was signed into law in response to the economic challenges facing US businesses. Under the CARES Act, the Internal Revenue Code was amended to allow for federal NOL carrybacks for five years to offset previous years income, or can be carried forward indefinitely to offset 100% of taxable income for the tax year 2020 and 80% of taxable income for tax years 2021 and thereafter.

As of December 31, 2020, we also had federal and California research and development tax credit carryforwards of $32.1 million and $9.4 million, respectively. The federal research and development tax credit carryforwards will begin to expire in 2029. The California research and development tax credit carryforwards are available indefinitely.

Pursuant to Sections 382 and 383, use of the Company's net operating loss and credit carryforwards may be limited if a cumulative change in ownership of more than 50% (by value) occurs within a three-year period. The Company has not performed an analysis through December 31, 2020 to determine whether its net operating loss and research and development credit carryforwards are subject to annual limitation under Sections 382 or 383 of the Code, and these financial statements do not contain any adjustment relating to such potential limitations. However, if the Company experienced an ownership change that resulted in an annual limitation on the Company's net operating loss carryforwards under Section 382 of the Code there would be no material impact to the Company's financial statements.

The following table summarizes the changes in the amount of our unrecognized tax benefits (in thousands):

	Year Ended December 31,	
	2020	2019
Beginning balance of unrecognized tax benefits	$ 16,573	$ 14,700
Decrease for prior year tax positions	(1)	(7)
Increase for current year tax positions	1,367	1,880
Total	$ 17,939	$ 16,573

Included in unrecognized tax benefits of $17.9 million at December 31, 2020 was $14.5 million of tax benefits that, if recognized, would reduce our annual effective tax rate, subject to valuation allowance. We do not expect that there will be a significant change in the unrecognized tax benefits over the next 12 months.

We are subject to taxation in the United States and state jurisdictions where applicable. Our tax years for 2010 and forward are subject to examination by the U.S. tax authorities and our tax years for 2011 and forward are subject to examination by the California tax authorities due to carryforward of unutilized net operating losses and research and development credits.

It is our practice to recognize interest and/or penalties related to income tax matters in income tax expense. For the years ended December 31, 2020 and 2019, we have not recognized any interest or penalties related to income taxes.

13. Leases

In July 2015, we entered into an operating lease agreement (the "Prior Lease") for approximately 59,248 square feet of office and laboratory facility space located at 10614 Science Center Drive, San Diego, California 92121. The lease term was 96 months from the lease commencement date, and we moved our headquarters into this facility in May 2016. In conjunction with the lease, we received $1.4 million of lease incentives and $8.2 million of tenant improvement allowance, which was to be used for non-structural leasehold improvements. The lease incentives and tenant improvement allowance were included within deferred rent. The Prior Lease agreement was with ARE SD Region No. 44 LLC (“Landlord”).

On February 19, 2019, we entered into an agreement, the (“Space Swap Agreement"), with Nitto Biopharma, Inc. ("Nitto"), pursuant to which we agreed, contingent upon the execution of a new lease agreement (the "February Lease") for Nitto's space with Landlord and the termination of the Prior Lease, to, among other things, (i) swap buildings with Nitto, and (ii) sell, convey and transfer all right, title and interest in certain furniture, fixtures and equipment to Nitto, as set forth in the Space Swap Agreement. Under the Space Swap Agreement, we paid Nitto (a) a relocation assistance payment in the amount of $0.1 million; (b) $0.2 million representing the difference between the security deposits under the Prior Lease and Nitto’s prior lease, and (c) $1.3 million as reimbursement for the six monthly installments of base monthly rent due pursuant to the new lease between Nitto and Landlord, subject to certain adjustments, which reimbursements were to be paid as rent comes due for Nitto under its new lease.

On February 25, 2019, we and Landlord entered into a second amendment (the “Prior Lease Amendment”) to the Prior Lease. Under the terms of the Prior Lease Amendment, the expiration date of the Prior Lease was accelerated from April 30, 2024 to March 31, 2019 and the Prior Lease terminated on April 1, 2019. The Prior Lease Amendment eliminated all further cash payments due under the Prior Lease, including aggregate base rent over its remaining term of approximately $14.4 million.

On February 25, 2019, we entered into the February Lease with Landlord, for the lease of approximately 24,562 square feet of rentable area of the building located at 10628 Science Center Drive, San Diego, California, 92121 (the "Premises"), which Premises were previously occupied by Nitto. The commencement date of the February Lease was April 1, 2019 (the “Commencement Date”). The Premises served as our new principal executive offices and as a laboratory for research and development, manufacturing and other related uses. The term of the February Lease (“Initial Term”) was 51 months, ending June 30, 2023. The aggregate base rent due over the Initial Term was approximately $4.8 million. We were also responsible for the payment of additional rent to cover our share of the annual operating expenses, the annual tax expenses and the annual utilities costs related to the February Lease. The base rent payments due were: $0.6 million in 2019, $1.2 million in 2020, $1.2 million in 2021, $1.2 million in 2022, and $0.6 million in 2023.

The execution of the February Lease and Prior Lease Amendment resulted in a modification which was not accounted for as a separate contract. Rather, we accounted for the two contracts with Landlord in combination as they were entered into at the same time and negotiated as a package to achieve the same commercial objective. The leasehold improvements under the Prior Lease were accounted for as non-cash consideration of $5.6 million paid by us upon termination of the Prior Lease to the Landlord. We accounted for a $1.3 million portion of the reduction in the lease liability for the Prior Lease as a non-cash gain in the statement of operations due to the reduction in lease term and leased space with Landlord and a $0.9 million portion of the reduction of the lease liability as a deferred credit that is amortized as a reduction to rent expense over the term of the Lease. The $1.6 million obligation to reimburse Nitto for six monthly installments of base rent of the Prior Lease and certain other costs were accounted for as cost of terminating the Prior Lease in the statement of operations. The net impact of the modification was a $0.4 million charge in the statement of operations. Our payment obligations to Nitto under the Space Swap Agreement were fully satisfied as of September 2019 and no assets or liabilities remained with respect to the Prior Lease as of December 31, 2019. The commencement date of the February Lease did not occur until April 1, 2019 and therefore, as of March 31, 2019, the lease liability for the February Lease was zero. On April 1, 2019, we recorded a $3.8 million lease liability for the February Lease, which was calculated as the present value of future lease payments to be made under the February Lease. A $2.9 million ROU asset was also recorded on April 1, 2019, which represents the difference between the lease liability and the $0.9 million deferred credit for the reduction of the lease liability under the Prior Lease.

On June 19, 2019, we entered into a lease agreement (the "New Lease") with Landlord for the lease of approximately 8,727 square feet of rentable area of the building located at 10628 Science Center Drive, Suite 225, San Diego, California 92121 (the "New Premises"). The commencement date of the New Lease was July 1, 2019 (the "New Commencement Date"). We are using the New Premises as our new principal executive offices and as a laboratory for research and development and other related uses. The term of the New Lease (the "New Initial Term") is two years, six months, ending December 31, 2021. The base rent payments due for the New Premises were $0.1 million in 2019 and $0.4 million in 2020 and is $0.4 million in 2021, net of certain rent abatement terms. We will also be responsible for the payment of additional rent to cover our share of the annual operating expenses of the building, the annual tax expenses of the building and the annual utilities cost of the building.

On June 19, 2019, we entered into a first amendment to the February Lease with Landlord (the "February Lease Amendment"). Under the terms of the February Lease Amendment, the expiration date of the February Lease was accelerated from June 30, 2023 to June 30, 2019 and the February Lease terminated upon the Commencement Date of the New Lease. The February Lease Amendment eliminated all further rents due under the February Lease, including aggregate base rent over its remaining term of approximately $4.8 million.

The execution of the New Lease and February Lease Amendment resulted in a modification which was not accounted for as a separate contract. Rather, we accounted for the two contracts with Landlord in combination as they were entered into at the same time and negotiated as a package to achieve the same commercial objective. We accounted for a $0.5 million portion of the reduction in the lease liability for the February Lease as a non-cash gain in the statement of operations due to the reduction in lease term and leased space with Landlord and a $0.2 million portion of the reduction of the lease liability as a deferred credit that is amortized as a reduction to rent expense over the term of the New Lease. No other assets or liabilities remained with respect to the February Lease as of December 31, 2019. The commencement date of the New Lease did not occur until July 1, 2019 and therefore, as of June 30, 2019, the lease liability for the New Lease was zero. On July 1, 2019, we recorded a $0.8 million lease liability for the New Lease, which was calculated as the present value of future lease payments to be made under the New Lease. A $0.6 million ROU asset was also recorded on July 1, 2019, which represents the difference between the lease liability and the remaining $0.2 million deferred credit for the reduction of the lease liability under the February Lease.

The table below summarizes our lease liabilities and corresponding ROU assets as of December 31, 2020 and 2019 (in thousands):

	Year Ended December 31,	
	2020	2019
Assets		
Operating	$ 253	$ 464
Financing	288	466
Total ROU assets	$ 541	$ 930
Liabilities		
Current:		
Operating	$ 417	$ 361
Financing	56	277
Long-term:		
Operating	—	417
Financing	—	56
Total lease liabilities	$ 473	$ 1,111

The table below summarizes our lease costs from our statement of operations and cash payments from our statement of cash flows during the years ended December 31, 2020 and 2019 (in thousands):

	Year Ended December 31,	
	2020	2019
Lease cost:		
Operating lease cost	$ 278	$ 715
Finance lease cost:		
Amortization of right-of-use assets	178	182
Interest expense on lease liabilities	10	5
Total finance lease cost	$ 188	$ 187
Cash payment information:		
Operating cash used for operating leases	$ 429	$ 756
Operating cash used for finance leases	10	24
Financing cash used for finance leases	277	263
Total cash paid for amounts included in the measurement of lease liabilities	$ 716	$ 1,043

The table below summarizes other non-cash information under our operating and financing lease obligations as of December 31, 2020 and 2019 (in thousands, except years and rates):

	Year Ended December 31,	
	2020	2019
Supplemental non-cash information:		
Operating lease liabilities arising from obtaining right-of-use assets	$ —	$ 778
Weighted-average remaining lease term (years) - operating leases	1.0	2.0
Weighted-average remaining lease term (years) - finance leases	0.2	1.2
Weighted-average discount rate - operating leases	10.9 %	10.9 %
Weighted-average discount rate - finance leases	4.9 %	4.9 %

Our future lease payments under operating and finance leases at December 31, 2020 are as follows (in thousands):

	Operating Leases	Finance Leases
2021	$ 442	$ 56
Total lease payments	442	56
Less: amount representing interest	(25)	—
Present value of obligations under leases	417	56
Less: current portion	(417)	(56)
Long-term lease obligations	$ —	$ —

14. Selected Quarterly Financial Data (Unaudited)

The following financial information reflects all normal recurring adjustments, which are, in the opinion of management, necessary for a fair statement of the results of the interim periods. Summarized quarterly data for 2020 and 2019 are as follows (in thousands, except per share data):

	For the quarters ending			
	March 31	June 30	September 30	December 31
2020				
Total revenues	$ 6	$ —	$ 5,000	$ 5,000
Total operating expenses	(5,541)	(6,496)	(6,095)	(6,028)
Net loss	(5,937)	(6,947)	(1,524)	(1,322)
Net loss per share, basic and diluted (1)	$ (0.25)	$ (0.23)	$ (0.04)	$ (0.03)
2019				
Total revenues	$ 6,778	$ 18	$ 18	$ 18
Total operating expenses	(9,516)	(4,686)	(5,011)	(4,453)
Net loss	(3,260)	(5,016)	(5,423)	(4,893)
Net loss per share, basic and diluted (1)	$ (0.31)	$ (0.30)	$ (0.26)	$ (0.23)

(1) Net loss per share is computed independently for each of the quarters presented. Therefore, the sum of the quarterly per-share calculations will not necessarily equal the annual per share calculation.

15. Subsequent Events

Corporate Headquarters Lease Agreement

On February 11, 2021, we entered into a lease agreement (the "Campus Point Lease") with ARE-SD Region No. 58 LLC ("Campus Point Landlord"), for the lease of approximately 13,438 square feet of rentable area located at 4224 Campus Point Court, Suite 210, San Diego, California, 92121 (the "Campus Point Premises"). The commencement date of the Campus Point Lease is targeted at nine weeks subsequent to the mutual execution and delivery of the Campus Point Lease by both the Company and the Campus Point Landlord, or April 15, 2021. We expect to use the Campus Point Premises as our new principal executive offices and as a laboratory for research and development, manufacturing and other related uses. The term of the Campus Point Lease (“Campus Point Initial Term”) is 60 months, ending April 30, 2026 (assuming an April 15, 2021 commencement date). The aggregate base rent due over the initial term of the Campus Point Lease is approximately $3.8 million. We will also be responsible for the payment of additional amounts to cover our share of the annual operating expenses of the building, the annual tax expenses of the building and the utilities costs for the building.

On February 11, 2021, concurrently with entry into the Campus Point Lease, we entered into an Assignment and Assumption of Lease (the “Assignment Agreement”) with Turning Point Therapeutics, Inc. (“Assignee”) and a Consent to Assignment (the "Consent") with Landlord. Pursuant to the Assignment Agreement, we will assign all rights, title, and interest under the New Lease to Assignee and deliver the New Premises to Assignee within five business days following the date that Campus Point Landlord delivers the Campus Point Premises to us. Pursuant to the Assignment Agreement, Assignee is required to pay us $60,000 in non-refundable assignment consideration. Additionally, the Consent stipulates that we will not be required to pay a fee pursuant to the New Lease in connection with the assignment.

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

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to provide rea65sonable assurance that information required to be disclosed in our periodic and current reports that we file with the SEC is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and that such information is accumulated and communicated to our management, including our principal executive officer and our principal financial officer, as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable and not absolute assurance of achieving the desired control objectives. In reaching a reasonable level of assurance, management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. In addition, the design of any system of controls also is based, in part, upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with

policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

As of December 31, 2020, we carried out an evaluation, under the supervision and with the participation of our management, including our principal executive officer and our principal financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended. Based on this evaluation, our principal executive officer and our principal financial officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of December 31, 2020.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as such term is defined in Exchange Act Rule 13a-15(f) and 15(d)-15(f). Internal control over financial reporting is a process designed under the supervision and with the participation of our management, including our principal executive officer and our principal financial officer, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP.

As of December 31, 2020, our management assessed the effectiveness of our internal control over financial reporting using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control-Integrated Framework (2013 Framework)*. Based on this assessment, our management concluded that, as of December 31, 2020, our internal control over financial reporting was effective based on those criteria.

Changes in Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as such term is defined in Rule 13a-15(f) of the Exchange Act. An evaluation was also performed under the supervision and with the participation of our management, including our principal executive officer and our principal financial officer, of any change in our internal control over financial reporting that occurred during our last fiscal quarter and that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. That evaluation did not identify any change in our internal control over financial reporting that occurred during our latest fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

DIRECTORS

Our Board of Directors ("Board of Directors" or "Board") currently consists of ten directors. The brief biographies below include information, as of the date of this Annual Report, regarding the specific and particular experience, qualifications, attributes or skills of each director.

Name	Age	Position Held With the Company
Dr. Stelios Papadopoulos	72	Chairman of the Board of Directors
Ms. Kathryn J. Collier	53	Director
Dr. David Baltimore	83	Director
Mr. Joseph P. Hagan	52	Director, President and Chief Executive Officer
Dr. Alice S. Huang	81	Director
Mr. Jake R. Nunn	50	Director
Dr. William H. Rastetter	72	Director
Dr. Hugh Rosen	62	Director
Dr. Simos Simeonidis	51	Director
Ms. Pascale Witz, MBA, MSc	53	Director

Stelios Papadopoulos, Ph.D. Chairman of the Board, has served on our Board of Directors since our conversion to a corporation in January 2009 and as our Chairman since June 2013, and prior to that was a director of Regulus Therapeutics LLC since July 2008. Since 1994, Dr. Papadopoulos has served as a director and, since 1998, as Chairman of the Board for Exelixis, Inc., a publicly held biotechnology company, which he co-founded. Since July 2008, Dr. Papadopoulos has served as a member of the board of directors of Biogen Inc. (formerly Biogen Idec Inc.), a publicly held biopharmaceutical company, and has served as its chairman of the board of directors since June 2014. Since August 2020, Dr. Papadopoulos has served as chairman of the board of Eucrates Biomedical Acquisition Corp., a special purpose acquisition corporation. From 2003 to 2018, Dr. Papadopoulos served as a member of the board of directors of BG Medicine, Inc., a publicly-held life sciences company. From 2000 to 2006, Dr. Papadopoulos served as Vice Chairman with Cowen and Co., LLC, an investment banking firm. From 1987 to 2000, Dr. Papadopoulos served in several positions with PaineWebber, Incorporated, most recently as Chairman of PaineWebber Development Corp., a PaineWebber subsidiary focusing on biotechnology. Dr. Papadopoulos holds an M.S. in Physics, a Ph.D. in Biophysics and an MBA in Finance from New York University. Our Nominating and Corporate Governance Committee believes that Dr. Papadopoulos is qualified to serve on our Board of Directors due to his knowledge and expertise regarding the biotechnology and healthcare industries, his broad leadership experience on various boards and his experience with financial matters.

David Baltimore, Ph.D. has served on our Board of Directors since our conversion to a corporation in January 2009, and prior to that was a director of Regulus Therapeutics LLC since November 2007. Since 2006, Dr. Baltimore has served as President Emeritus and Robert Andrews Millikan Professor of Biology at the California Institute of Technology, and before that from 1997 to 2006, Dr. Baltimore served as President of the California Institute of Technology. From 1968 to 1972, Dr. Baltimore served as an associate professor at the Massachusetts Institute of Technology, and from 1972 to 1997 was a professor at the Massachusetts Institute of Technology. From 1990 to 1994, Dr. Baltimore served as professor at The Rockefeller University where he also served as the President from July 1990 to December 1991. Dr. Baltimore served as a director of Amgen Inc., a publicly held biotechnology company from 1997 to May 2018, and also served as a director of Immune Design Corp., a publicly held biotechnology company, from 1997 until its acquisition by Merck & Co., Inc. in February 2019. In 1975, Dr. Baltimore received the Nobel Prize in Medicine as a co-recipient. Dr. Baltimore holds a Ph.D. in Biology from The Rockefeller University and a B.A. with High Honors in Chemistry from Swarthmore College. Our Nominating and Corporate Governance Committee believes that Dr. Baltimore is qualified to serve on our Board of Directors due to the many years Dr. Baltimore has spent in scientific academia, which has provided him with a deep understanding of our industry and our activities.

Kathryn J. Collier has served on our Board of Directors since April 2018. Since July 2019, Ms. Collier has served as the vice president for audit services of Sempra Energy, a publicly-traded energy services holding company whose subsidiaries provide electricity, natural gas and value-added products and services. In this position, Ms. Collier oversees the internal audit

function for Sempra Energy, including the Financial Leadership Program and audit oversight of Sempra's operating companies. From March 2019 to July 2019, Ms. Collier served as the chief strategy and origination officer for Sempra LNG, a wholly-owned subsidiary of Sempra Energy. From August 2018 to March 2019, Ms. Collier served as chief financial officer and chief administrative officer for Sempra North America Infrastructure. Ms. Collier also previously served as vice president and treasurer for Sempra Energy from April 2012 to August 2018. Prior to joining Sempra Energy in 2012, Ms. Collier held several executive positions within global corporate and investment banking at Bank of America Merrill Lynch. Ms. Collier holds a bachelor's degree in accounting from Valparaiso University, Valparaiso, Indiana. Our Nominating and Corporate Governance Committee believes that Ms. Collier is qualified to serve on our Board of Directors due to her extensive financial and operational experience, her experience in investment banking and her corporate governance experience with various boards.

Joseph P. Hagan has served as our President and Chief Executive Officer and principal executive officer since May 2017. Mr. Hagan previously served as our Chief Operating Officer, principal financial officer and principal accounting officer from January 2016 to May 2017. From June 2011 through December 2015, Mr. Hagan served as the Executive Vice President, Chief Financial Officer and Chief Business Officer of Orexigen Therapeutics, Inc. From May 2009 to June 2011, Mr. Hagan served as Orexigen's Senior Vice President, Corporate Development, Strategy and Communications. From September 1998 to April 2008, Mr. Hagan served as Managing Director of Amgen Ventures. Prior to starting the Amgen Ventures Fund, Mr. Hagan served as Head of corporate development for Amgen Inc. Before joining Amgen, Mr. Hagan spent five years in the bioengineering labs at Genzyme and Advanced Tissue Sciences. Mr. Hagan has served on the board of directors of Zosano Pharma, a publicly-traded biotechnology company, since May 2015 and on the board of Aurinia Pharmaceuticals, Inc., since February 2018. He received an M.B.A. from Northeastern University and a B.S. in Physiology and Neuroscience from the University of California, San Diego. Our Nominating and Corporate Governance Committee believes that Mr. Hagan's expertise in business development, commercialization and financing of public companies qualify him to serve on our Board of Directors.

Alice S. Huang, Ph.D. has served on our Board of Directors since January 2021. Dr. Huang is currently Senior Faculty Associate of Biology and Biological Engineering at the California Institute of Technology having joined Caltech in July 1997. Previous to her tenure at Caltech she was Dean for Science and Professor of Biology at New York University, Professor of Microbiology and Molecular Genetics at Harvard Medical School and Director, Laboratories of Infectious Disease at Boston Children's Hospital. She also served as director of Virus-Host Interactions in Cancer for 15 years, a training program at Harvard funded by the National Cancer Institute. Dr. Huang has served on the Board of Trustees of the Keck Graduate Institute since 1998 and has previously served on the Board of Trustees of Waksman Foundation for Microbiology, the Rockefeller Foundation, Public Agenda, Johns Hopkins University, the Health Effects Institute, and the University of Massachusetts. Dr. Huang is serving on the advisory boards of the Institute for Basic Biomedical Sciences at Johns Hopkins University School of Medicine since 2008 as well as the Schlesinger Library at Radcliffe Institute since 2018. She has previously served on the advisory boards of the National Foundation for Infectious Diseases, the US Army Medical Research & Development Command and Food & Drug Administration. She has been a fellow of the American Association of Women in Science since 1978, American Academy of Microbiology since 1982, Academia Sinica in Taiwan since July 1990, and the American Association for the Advancement of Science since 2000, serving as its president from 2010 to 2011. Dr. Huang received her B.A., M.A. and Ph.D. degrees from the Johns Hopkins University. Our Nominating and Corporate Governance Committee believes that Dr. Huang is qualified to serve on our Board of Directors due to the many years she has spent in scientific academia, which has provided her with a deep understanding of our scientific activities.

Jake R. Nunn has served on our Board of Directors since June 2019. Mr. Nunn is currently a venture advisor at New Enterprise Associates, Inc., a venture capital firm, where he was a partner from June 2006 until January 2019. Prior to joining NEA, he served as a partner and an analyst for the MPM BioEquities Fund, a life sciences fund at MPM Capital, L.P., a private equity firm. Previously, he was a healthcare research analyst and portfolio manager at Franklin Templeton Investments and an investment banker with Alex. Brown & Sons. Mr. Nunn has served on the board of directors of Trevena, Inc., a publicly-held biotechnology company focused on CNS since July 2013 and Addex Therapeutics Ltd., a publicly-held biopharmaceutical company focused on allosteric modulators for neurological disorders since June 2019 and Oventus Medical Ltd., a publicly-held medical device company since February 2020. Mr. Nunn served on the board of directors of Dermira, Inc., a publicly-held biopharmaceutical company focused on dermatology, from May 2011 until its acquisition by Eli Lilly and Company in February 2020. From 2009 to May 2015, Mr. Nunn served on the board of directors of Hyperion Therapeutics, Inc. and from 2008 to February 2016, Mr. Nunn served on the board of directors of TriVascular Technologies, Inc. Mr. Nunn received his A.B. in economics from Dartmouth College and his M.B.A. from the Stanford Graduate School of Business. He also holds the Chartered Financial Analyst designation and is a member of the CFA Society of San Francisco. Our Nominating and Corporate Governance Committee believes that Mr. Nunn is qualified to serve on our Board of Directors due to his extensive financial experience, his experience in investment banking and his corporate governance experience with various boards.

William H. Rastetter, Ph.D. has served on our Board of Directors since April 2013. From 2006 to February 2013, Dr. Rastetter served as a partner in the venture capital firm, Venrock. He served as Chief Executive Officer of IDEC Pharmaceuticals from December 1986 through November 2003, and as Chairman from May 1996 to November 2003. Upon the

merger of IDEC Pharmaceuticals and Biogen in November 2003, Dr. Rastetter served as Executive Chairman of Biogen Idec until the end of 2005. Dr. Rastetter served as chairman of the board of Illumina, Inc., a publicly held biotechnology company, from 2005 to January 2016 and served on its board of directors from 1998 to January 2016. He was a founder of Receptos, Inc. in 2009 and served as its chairman until the sale of the publicly held company to Celgene in 2015. Currently, he has served as the chairman of the board of directors of Fate Therapeutics, Inc., a publicly held biotechnology company, since November 2011; chairman of the board of directors of Neurocrine Biosciences, Inc., a publicly held biotechnology company, since May 2011 and on its board of directors since February 2010; on the board of directors of Grail, Inc., a privately-held company, since January 2016, and as its chairman from August 2017 to November 2018. Dr. Rastetter served on the board of directors of Cerulean Pharma Inc., a publicly held biotechnology company since January 2014, as its lead independent director from April 2014 to June 2016, and as its chairman from June 2016 until July 2017 when Cerulean and Daré Bioscience Inc. completed a reverse merger and he currently serves as chairman of the board of the surviving company, Daré Bioscience Inc., a publicly-traded company. In addition, he serves as an advisor to Illumina Ventures. He is the author of numerous scientific papers and patent applications in the fields of organic and bioorganic chemistry, protein and enzyme engineering, and biotechnology. Dr. Rastetter holds an S.B. in Chemistry from the Massachusetts Institute of Technology and received his M.A. and Ph.D. in Chemistry from Harvard University. Our Nominating and Corporate Governance Committee believes that Dr. Rastetter's knowledge and expertise regarding the biotechnology industry and his leadership experience on various biotechnology company boards of directors qualifies him to serve on our Board of Directors.

Hugh Rosen, M.D., Ph.D. has served on our Board of Directors since June 2016. Since April 2017, Dr. Rosen has served as the President and Chairman of the Board of Activx Biosciences, Inc., a wholly owned biopharmaceutical subsidiary of Kyorin Pharmaceutical Co., Ltd. From 2002 until March 2017, Dr. Rosen served as a Professor of Chemical Physiology at The Scripps Research Institute (TSRI) in La Jolla, California where he focused on pursuing his primary interests in lymphocyte trafficking and barrier regulation by signaling lipids, and contributing towards the development of translational infrastructure at TSRI. He also served as Chairman of the Committee for Advanced Human Therapeutics of TSRI. Prior to joining The Scripps Research Institute, Dr. Rosen served in various capacities with Merck Research Laboratories most recently serving as Executive Director in Immunology, Rheumatology and Infectious Diseases and Chair of the Worldwide Business Strategy Team for Antibacterials and Antifungals, reporting to the Management Committee. Dr. Rosen was a scientific founder of Receptos, Inc., now a wholly owned biopharmaceutical subsidiary of Celgene Corporation, and of RBNC Therapeutics. He received his M.D. from the University of Cape Town, South Africa and his Ph.D. in Physiological Sciences from Oxford. Our Nominating and Corporate Governance Committee believes that Dr. Rosen is qualified to serve on our Board of Directors due to the many years Dr. Rosen has spent in scientific academia as well as the biopharmaceutical industry, which has provided him with a deep understanding of our industry and our activities.

Simos Simeonidis, Ph.D. has served on our Board of Directors since June 2019. Since June 2017, Dr. Simeonidis has served as a Partner at Sarissa Capital. Prior to joining Sarissa Capital, he was a Managing Director and Senior Biotechnology Analyst at the Royal Bank of Canada (RBC) in New York from July 2014 to June 2017. Since October 2020, Dr. Simeonidis has also served on the board of Sarissa Capital Acquisition, a publicly-held special acquisition company focused on healthcare. Dr. Simeonidis spent more than a decade covering the biotechnology sector as an analyst at a number of investment banks, including Cowen and Company, First Albany Capital and Morgan Stanley. In addition to his investment management and financial expertise, Dr. Simeonidis combines both biopharmaceutical industry and biomedical research expertise, having worked at Novartis in Business Development and Strategic Planning, and prior to his corporate career, having served as a faculty member at Harvard Medical School. Dr. Simeonidis received his BS in Biology from Loyola University Chicago, and his MA, MPhil and PhD degrees in Cellular, Molecular and Biophysical Sciences from Columbia University's College of Physicians & Surgeons. He completed his Postdoctoral Fellowship at the laboratory of Professor Tucker Collins at Harvard Medical School and the Brigham and Women's Hospital, where he worked on the transcriptional regulation of gene expression. Dr. Simeonidis also holds an MBA in Healthcare Management at the Wharton School of the University of Pennsylvania. Our Nominating and Corporate Governance Committee believes that Dr. Simeonidis is qualified to serve on our Board of Directors due to his extensive experience in investment banking and as an analyst covering the life sciences industry, his prior employment in the biopharmaceutical industry, and his medical and scientific background.

Pascale Witz, MBA, MSc has served on our Board of Directors since June 2017. Ms. Witz is the founder and since November 2016, the president of PWH Advisors a consultancy firm advising management at life science companies and investment firms. From September 2015 through May 2016, Ms. Witz served as the Executive Vice President, Diabetes & Cardiovascular for Sanofi, S.A. Prior to that position, Ms. Witz served as the Executive Vice President, Global Divisions and Strategic Development, commencing in July 2013. During her tenure at Sanofi, she launched multiple medicines across three continents, and strengthened the pipeline through licensing and partnerships, including with Verily, a first-in-industry joint venture with a tech company. From 2009 to 2013, Ms. Witz served as President and CEO of GE's Pharmaceutical Diagnostics, a $2 billion integrated Pharmaceutical organization that encompassed Research and Development, Industrial Affairs through Commercial. Ms. Witz joined GE Healthcare in 1996, where she held various positions of increasing responsibilities; her 17-year career brought her to lead global businesses based out of the USA, France and the UK. She formerly worked for Becton Dickinson Pharmaceutical Systems from 1991 to 1996.Ms. Witz has served on the board of Fresenius Medical Care AG & Co.

KGaA, since May 2016 Horizon Pharma, since August 2017 and Perkin Elmer, since October 2017, and. Ms. Witz also served on the board of TESARO, Inc., from May 2018 until its acquisition by GlaxoSmithKline plc in January 2019 and from May 2016 to April 2018, served on the board of Savencia SA,. Ms. Witz received her Master of Business Administration from INSEAD, Fontainebleau, France and her Master of Science in Biochemistry from the Institut National des Sciences Appliquées (INSA) Lyon, France She was also a Ph.D. student in Molecular Biology at the Centre National de la Recherche Scientifique, Strasbourg, France. Our Nominating and Corporate Governance Committee believes that Ms. Witz is qualified to serve on our Board of Directors due to her knowledge, expertise and prior employment in the pharmaceutical industry and her experience on other company boards, which has provided her with a deep understanding of our industry and our activities.

EXECUTIVE OFFICERS

The following table sets forth our current executive officers, their ages, and the positions held by each such person with the Company:

Name	Age	Position Held With the Company
Joseph P. Hagan	52	President and Chief Executive Officer
Christopher Aker	60	Senior Vice President and General Counsel
Cris Calsada	51	Chief Financial Officer
Denis Drygin, Ph.D.	47	Chief Scientific Officer

Mr. Hagan's biographical information is set forth above under Proposal 1.

Christopher Aker has served as our Senior Vice President and General Counsel since January 2019, and before that served as our Senior Director, Legal Affairs since February 2011. Prior to joining us, Mr. Aker served as the Senior Director, Administration and Senior Corporate Counsel for Phenomix Corporation, a privately-held biopharmaceutical company, and was responsible for operational and legal oversight. Prior to Phenomix, Mr. Aker was Senior Corporate Counsel at SUGEN, Inc., a wholly-owned subsidiary of Pharmacia, until its acquisition by Pfizer. Prior to SUGEN, Mr. Aker was in private practice with various law firms. Mr. Aker received his Bachelor of Arts degree in International Relations from the University of California, Davis and his J.D. from Santa Clara University.

Cris Calsada joined Regulus in August 2019 and currently serves as our Chief Financial Officer. Prior to joining us, she served as Chief Financial Officer for Sanifit Therapeutics, S.A. since December 2017. Prior to her employment with Sanifit, Ms. Calsada was self-employed as a finance consultant to various life sciences companies. From 2004 until its acquisition in 2015, she served in positions of increasing responsibility with Ambrx, Inc., most recently serving as its Chief Operating Officer and Vice President of Finance. Prior to Ambrx, she worked for Sony Online Entertainment as its Executive Director of Finance and Controller. Earlier in her career, she practiced as a certified public accountant. Ms. Calsada received a B.S. in Business Administration with emphasis in Accounting from San Diego State University and an M.B.A. from the University of Southern California Marshall School of Business.

Denis Drygin, Ph.D. joined Regulus in August 2020 and currently serves as Chief Scientific Officer. Prior to joining Regulus, Dr. Drygin served as Vice President of Research & Development for Pimera Inc., a privately held biopharmaceutical company of which Dr. Drygin is a Founder. Before Pimera, Dr. Drygin was with Cylene Pharmaceuticals, most recently serving as Vice President of Biology. Dr. Drygin led discovery and/or development of multiple therapeutics including first selective inhibitor of CK2 kinase Silmitasertib (CX-4945), first selective inhibitor of RNA Polymerase I transcription (Pol I) CX-5461, as well as second generation Pol I inhibitor PMR-116. Dr. Drygin received a B.S. and M.S. in Chemistry from Moscow State University, an M.S. and Ph.D. in Molecular and Cellular Biology from University of Massachusetts at Amherst and Post-Doctoral training in Pharmacology and Toxicology from Ionis Pharmaceuticals.

CORPORATE GOVERNANCE

Code of Ethics

The Company has adopted a Code of Business Conduct and Ethics that applies to all directors, officers (including our principal executive officer, principal financial officer and principal accounting officer) and employees. The Code of Business Conduct and Ethics is available on the Company's website at www.regulusrx.com under the Corporate Governance section of our Investor Relations page. If the Company makes any substantive amendments to the Code of Business Conduct and Ethics that applies to our principal executive officer, principal financial officer, principal accounting officer, controller or persons performing similar functions, or grants any waiver from a provision of the Code of Business Conduct and Ethics to any of these

specified individuals that is required to be disclosed pursuant to SEC rules and regulations, the Company will promptly disclose the nature of the amendment or waiver on its website.

Hedging Policy

The Company's insider trading and window period policy provides that no officer, director, other employee or consultant of the Company may engage in short sales, transactions in put or call options, hedging transactions or other inherently speculative transactions with respect to the Company's stock at any time. In addition, no officer, director, other employee or consultant of the Company may margin, or make any offer to margin, any of the Company's stock, including without limitation, borrowing against such stock, at any time.

BOARD LEADERSHIP STRUCTURE

Our Board of Directors is currently chaired by Stelios Papadopoulos, Ph.D. As a general policy, our Board of Directors believes that separation of the positions of Chairman and Chief Executive Officer reinforces the independence of the Board of Directors from management, creates an environment that encourages objective oversight of management's performance and enhances the effectiveness of the Board of Directors as a whole. As such, Mr. Hagan serves as our President and Chief Executive Officer while Dr. Papadopoulos serves as our Chairman of the Board of Directors but is not an officer. We expect and intend the positions of Chairman of the Board of Directors and Chief Executive Officer to continue to be held by separate individuals in the future.

ROLE OF THE BOARD IN RISK OVERSIGHT

One of the key functions of our Board of Directors is informed oversight of our risk management process. The Board of Directors does not have a standing risk management committee, but rather administers this oversight function directly through the Board of Directors as a whole, as well as through various standing committees of our Board of Directors that address risks inherent in their respective areas of oversight. In particular, our Board of Directors is responsible for monitoring and assessing strategic risk exposure, and our Audit Committee has the responsibility to consider and discuss our major financial risk exposures and the steps our management has taken to monitor and control these exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken. The Audit Committee also monitors compliance with legal and regulatory requirements. Our Nominating and Corporate Governance Committee monitors the effectiveness of our corporate governance practices, including whether they are successful in preventing illegal or improper liability-creating conduct. Our Compensation Committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking.

As a result of the COVID-19 pandemic, we have and may in the future experience disruptions that could severely impact our business, preclinical studies and clinical trials. Given the evolving nature of the pandemic, our senior management and our Board of Directors are communicating and meeting more frequently to monitor potential business impacts and further strategic planning.

MEETINGS OF THE BOARD OF DIRECTORS

The Board of Directors met thirteen times during the last fiscal year and four times in executive session. All directors who served in 2020 attended at least 75% of the aggregate number of meetings of the Board and of the committees on which they served, held during the portion of the last fiscal year for which they were directors or committee members, respectively.

INFORMATION REGARDING COMMITTEES OF THE BOARD OF DIRECTORS

The Board maintains an Audit Committee, a Compensation Committee and a Nominating and Corporate Governance Committee. The following table provides membership and meeting information for the year ended December 31, 2020 for each of the Board committees:

Name	Audit	Compensation	Nominating and Corporate Governance
Dr. David Baltimore			X *
Kathryn J. Collier	X *		
Jake Nunn	X		
Dr. Stelios Papadopoulos	X		X
Dr. William H. Rastetter		X *	
Dr. Hugh Rosen		X	
Dr. Simos Simeonidis			X
Pascale Witz		X	
Total meetings in 2020	5	3	2

* Committee Chairperson

Below is a description of each committee of the Board of Directors. Each of the committees has authority to engage legal counsel or other experts or consultants, as it deems appropriate to carry out its responsibilities. Our Board of Directors has determined that each member of each committee meets the applicable Nasdaq rules and regulations regarding "independence" and that each member is free of any relationship that would impair his or her individual exercise of independent judgment with regard to the Company.

Audit Committee

The Audit Committee of our Board of Directors was established by our Board of Directors in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), to oversee the Company's corporate accounting and financial reporting processes and audits of its financial statements. For this purpose, our Audit Committee performs several functions. Our Audit Committee evaluates the performance of and assesses the qualifications of the independent auditors; determines and approves the engagement of the independent auditors; determines whether to retain or terminate the existing independent auditors or to appoint and engage new independent auditors; reviews and approves the retention of the independent auditors to perform any proposed permissible non-audit services; monitors the rotation of partners of the independent auditors on the Company's audit engagement team as required by law; reviews and approves or rejects transactions between the Company and any related persons; confers with management and the independent auditors regarding the effectiveness of internal controls over financial reporting; establishes procedures, as required under applicable law, for the receipt, retention and treatment of complaints received by the Company regarding accounting, internal accounting controls or auditing matters and the confidential and anonymous submission by employees of concerns regarding questionable accounting or auditing matters; and meets to review the Company's annual audited financial statements and quarterly financial statements with management and the independent auditor, including a review of the Company's disclosures under "Management's Discussion and Analysis of Financial Condition and Results of Operations."

Our Audit Committee is currently composed of three directors: Ms. Collier, Mr. Nunn and Dr. Papadopoulos. The Audit Committee met five times during the last fiscal year. Our Board of Directors has adopted a written charter of the Audit Committee that is available to stockholders on the Company's website at www.regulusrx.com. Our Board of Directors reviews the Nasdaq listing standards definition of independence for Audit Committee members on an annual basis and has determined that all members of our Audit Committee are independent (as independence is currently defined in Rule 5605(c)(2)(A) of the Nasdaq listing standards).

Our Board of Directors has determined that Ms. Collier qualifies as an "audit committee financial expert," as defined in applicable SEC rules. Our Board of Directors has made a qualitative assessment of Ms. Collier's level of knowledge and experience based on a number of factors, including her formal education, her experience in the investment banking industry and as the holder of various positions with responsibility for finance of a subsidiary of a major publicly-traded energy services holding company.

Compensation Committee

The Compensation Committee is currently composed of three directors: Dr. Rastetter, Dr. Rosen and Ms. Witz. The Board of Directors reviews the Nasdaq listing standards definition of independence for Compensation Committee members on an annual basis and has determined that all members of the Company's Compensation Committee are independent (as independence is currently defined in Rule 5605(d)(2)(A of the Nasdaq listing standards). The Compensation Committee met eight times during the last fiscal year. The Compensation Committee has adopted a written charter that is available to stockholders on the Company's website at www.regulusrx.com.

The Compensation Committee acts on behalf of the Board to review, adopt and/or recommend for adoption and oversee the Company's compensation strategy, policies, plans and programs. The functions of the Compensation Committee include, among other things:

- reviewing, modifying and approving (or if it deems appropriate, making recommendations to the full Board of Directors regarding) our overall compensation strategy and policies;
- reviewing and recommending to our Board of Directors the compensation and other terms of employment of our executive officers;
- reviewing and recommending to our Board of Directors the performance goals and objectives relevant to the compensation of our executive officers and assessing their performance against these goals and objectives;
- reviewing and approving (or if it deems it appropriate, making recommendations to the full Board of Directors regarding) the equity incentive plans, compensation plans and similar programs advisable for us, as well as modifying, amending or terminating existing plans and programs;
- evaluating risks associated with our compensation policies and practices and assessing whether risks arising from our compensation policies and practices for our employees are reasonably likely to have a material adverse effect on us;
- reviewing and approving (or if it deems it appropriate, making recommendations to the full Board of Directors regarding) the type and amount of compensation to be paid or awarded to our non-employee board members;
- establishing policies for allocating between long-term and currently paid out compensation, between cash and non-cash compensation and the factors used in deciding between the various forms of compensation;
- establishing policies with respect to votes by our stockholders to approve executive compensation as required by Section 14A of the Exchange Act and determining our recommendations regarding the frequency of advisory votes on executive compensation;
- reviewing and assessing the independence of compensation consultants, legal counsel and other advisors as required by Section 10C of the Exchange Act;
- establishing elements of corporate performance for purposes of increasing or decreasing compensation;
- administering our equity incentive plans;
- establishing policies with respect to equity compensation arrangements;
- reviewing regional and industry-wide compensation practices and trends to assess the competitiveness of our executive compensation programs and evaluating the effectiveness of our compensation policy and strategy in achieving expected benefits to us;
- reviewing the adequacy of its charter on a periodic basis;
- reviewing with management and approving our disclosures under the caption "Compensation Discussion and Analysis" in our periodic reports or proxy statements to be filed with the SEC, as applicable; and
- preparing the compensation committee report as required by SEC rules.

Compensation Committee Processes and Procedures

Typically, the Compensation Committee meets at least twice annually and with greater frequency if necessary. The agenda for each meeting is usually developed by the Chair of the Compensation Committee, in consultation with the Chief Executive Officer. The Compensation Committee meets regularly in executive session. However, from time to time, various members of management and other employees as well as outside advisors or consultants may be invited by the Compensation Committee to make presentations, to provide financial or other background information or advice or to otherwise participate in

Compensation Committee meetings. The Chief Executive Officer may not participate in, or be present during, any deliberations or determinations of the Compensation Committee regarding his compensation. The charter of the Compensation Committee grants the Compensation Committee full access to all books, records, facilities and personnel of the Company, as well as authority to obtain, at the expense of the Company, advice and assistance from internal and external legal, accounting or other advisors and consultants and other external resources that the Compensation Committee considers necessary or appropriate in the performance of its duties. In particular, the Compensation Committee has the sole authority to retain compensation consultants to assist in its evaluation of executive and director compensation, including the authority to approve the consultant's reasonable fees and other retention terms.

During fiscal year 2020, the Compensation Committee engaged Aon/Radford as a compensation consultant. The Committee engaged Aon/Radford to provide a competitive assessment of the Company's executive compensation program compared to executive compensation paid to executives at selected publicly traded peer companies. Following a gap analysis of the peer companies, Aon/Radford made certain recommendations to the Compensation Committee to make modest increases in the level of equity grants to the Company's executive team and to increase annual cash compensation for certain Company executives and Board Committee members who were paid below the median compared to the peer companies. The Compensation Committee analyzed whether the work of Aon/Radford as a compensation consultant raised any conflict of interest, taking into consideration the following factors: (i) the provision of other services to the Company by the compensation consultant; (ii) the amount of fees from the Company paid to the compensation consultant as a percentage of the firm's total revenue; (iii) the policies and procedures of the compensation consultant that are designed to prevent conflicts of interest; (iv) any business or personal relationship of the compensation consultant or the individual compensation advisors employed by this firm with an executive officer of the Company; (v) any business or personal relationship of the individual compensation advisors with any member of the Compensation Committee; and (vi) any stock of the Company owned by the compensation consultant or the individual compensation advisors employed by this firm. The Compensation Committee concluded, based on its analysis of the above factors, that the work of Aon/Radford and the individual compensation advisors employed by this firm as a compensation consultant to the Company has not created any conflict of interest.

Under its charter, the Compensation Committee may form, and delegate authority to, subcommittees as appropriate. In 2012, the Compensation Committee formed a Non-Management Stock Option Committee, currently composed of Mr. Hagan, to which it delegated authority to grant, without any further action required by the Compensation Committee, stock awards to employees who are not officers of the Company. The purpose of this delegation of authority is to enhance the flexibility of option administration within the Company and to facilitate the timely grant of options to non-management employees, particularly new employees, within specified limits approved by the Compensation Committee. In particular, the subcommittee may grant options only within pre-approved guidelines and not to any employee who will have a vice president title or higher. Typically, as part of its oversight function, the Committee will review on a regular basis the list of grants made by the subcommittee. During fiscal year 2020, the subcommittee exercised its authority to grant options and stock awards to purchase an aggregate of 752,750 shares of the Company's common stock to non-officer employees.

Historically, the Compensation Committee has made most of the significant adjustments to annual compensation, determined bonus and equity awards and established new performance objectives at one or more meetings held during the last quarter of the year. However, the Compensation Committee also considers matters related to individual compensation, such as compensation for new executive hires, as well as high-level strategic issues, such as the efficacy of the Company's compensation strategy, potential modifications to that strategy and new trends, plans or approaches to compensation, at various meetings throughout the year. Generally, the Compensation Committee's process comprises two related elements: the determination of compensation levels and the establishment of performance objectives for the current year. For executives other than the Chief Executive Officer, the Compensation Committee solicits and considers evaluations and recommendations submitted to the Committee by the Chief Executive Officer. In the case of the Chief Executive Officer, the evaluation of his performance is conducted by the Compensation Committee, which determines any adjustments to his compensation as well as awards to be granted. For all executives and directors as part of its deliberations, the Compensation Committee may review and consider, as appropriate, materials such as financial reports and projections, operational data, tax and accounting information, tally sheets that set forth the total compensation that may become payable to executives in various hypothetical scenarios, executive and director stock ownership information, company stock performance data, analyses of historical executive compensation levels and current Company-wide compensation levels and recommendations of the Company's General Counsel, including analyses of executive and director compensation paid at other companies identified by the Company's General Counsel.

Nominating and Corporate Governance Committee

The Nominating and Corporate Governance Committee of the Board of Directors is responsible for identifying, reviewing and evaluating candidates to serve as directors of the Company (consistent with criteria approved by the Board), reviewing and evaluating incumbent directors, recommending to the Board for selection candidates for election to the Board of Directors,

making recommendations to the Board regarding the membership of the committees of the Board, assessing the performance of the Board, and monitoring the Company's adherence to its Code of Business Conduct and Ethics.

The Nominating and Corporate Governance Committee is composed of three directors: Dr. Baltimore, Dr. Papadopoulos and Dr. Simeonidis. All members of the Nominating and Corporate Governance Committee are independent (as independence is currently defined in Rule 5605(a)(2) of the Nasdaq listing standards). The Nominating and Corporate Governance Committee met twice during 2020. The Nominating and Corporate Governance Committee has adopted a written charter that is available to stockholders on the Company's website and www.regulusrx.com.

The Nominating and Corporate Governance Committee believes that candidates for director, both individually and collectively, can and do provide the integrity, experience, judgment, commitment (including having sufficient time to devote to the Company and level of participation), skills, diversity and expertise appropriate for the Company. In assessing the directors, both individually and collectively, the Nominating and Corporate Governance Committee may consider the current needs of the Board and the Company to maintain a balance of knowledge, experience and capability in various areas. However, the Nominating and Corporate Governance Committee retains the right to modify these qualifications from time to time. Candidates for director nominees are reviewed in the context of the current composition of the Board, the operating requirements of the Company and the long-term interests of stockholders. In conducting this assessment, the Nominating and Corporate Governance Committee typically considers diversity, age, skills and such other factors as it deems appropriate given the current needs of the Board and the Company, to maintain a balance of knowledge, experience and capability. In the case of incumbent directors whose terms of office are set to expire, the Nominating and Corporate Governance Committee reviews these directors' overall service to the Company during their terms, including the number of meetings attended, level of participation, quality of performance and any other relationships and transactions that might impair the directors' independence. In the case of new director candidates, the Nominating and Corporate Governance Committee also determines whether the nominee is independent for Nasdaq purposes, which determination is based upon applicable Nasdaq listing standards, applicable SEC rules and regulations and the advice of counsel, if necessary. The Nominating and Corporate Governance Committee then uses its network of contacts to compile a list of potential candidates, but may also engage, if it deems appropriate, a professional search firm. The Nominating and Corporate Governance Committee conducts any appropriate and necessary inquiries into the backgrounds and qualifications of possible candidates after considering the function and needs of the Board. The Nominating and Corporate Governance Committee meets to discuss and consider the candidates' qualifications and then selects a nominee for recommendation to the Board by majority vote.

The Nominating and Corporate Governance Committee will consider director candidates recommended by stockholders. The Nominating and Corporate Governance Committee does not intend to alter the manner in which it evaluates candidates, including the minimum criteria set forth above, based on whether or not the candidate was recommended by a stockholder. Stockholders who wish to recommend individuals for consideration by the Nominating and Corporate Governance Committee to become nominees for election to the Board may do so by delivering a written recommendation to the Nominating and Corporate Governance Committee at the Company's principal executive offices, Attn: Secretary, no later than the 90th day and no earlier than the 120th day prior to the one year anniversary of the preceding year's annual meeting. Submissions must include (1) the name and address of the Company stockholder on whose behalf the submission is made; (2) the number of Company shares that are owned beneficially by such stockholder as of the date of the submission; (3) the full name of the proposed candidate; (4) a description of the proposed candidate's business experience for at least the previous five years; (5) the complete biographical information for the proposed candidate; (6) a description of the proposed candidate's qualifications as a director; and (7) any other information required by the Company Bylaws. The Company may require any proposed nominee to furnish such other information as it may reasonably require to determine the eligibility of such proposed nominee to serve as an independent director of the Company or that could be material to a reasonable stockholder's understanding of the independence, or lack thereof, of such proposed nominee.

Stockholder Communications with the Board of Directors

The Company's Board has adopted a formal process by which stockholders may communicate with the Board or any of its directors. Stockholders who wish to communicate with the Board may do so by sending written communications addressed to the Secretary of Regulus Therapeutics Inc. at the Company's principal executive offices. Each communication must set forth: the name and address of the Company stockholder on whose behalf the communication is sent; and the number of Company shares that are owned beneficially by such stockholder as of the date of the communication. Each communication will be reviewed by the Company's Secretary to determine whether it is appropriate for presentation to the Board or relevant directors.

Communications determined by the Company's Secretary to be appropriate for presentation to the Board or any relevant directors are submitted to the Board or relevant directors on a periodic basis.

Item 11. Executive Compensation

EXECUTIVE COMPENSATION

The Company is a "smaller reporting company" under Item 10 of Regulation S-K promulgated under the Securities and Exchange Act of 1934, and the following compensation disclosure is intended to comply with the requirements applicable to smaller reporting companies. Although the rules allow the Company to provide less detail about its executive compensation program, the Compensation Committee is committed to providing the information necessary to help stockholders understand its executive compensation-related decisions. Accordingly, this section includes supplemental narratives that describe the 2020 executive compensation program for our Named Executive Officers.

Named Executive Officers. The following individuals are our "Named Executive Officers" or "NEOs" for the year ended December 31, 2020:

- Joseph P. Hagan, our President and Chief Executive Officer;
- Christopher R. Aker, our Senior Vice President and General Counsel; and
- Cris Calsada, our Chief Financial Officer.

Summary Compensation Table

The following table shows, for the fiscal years ended December 31, 2020 and December 31, 2019, compensation awarded to, paid to, or earned by, the Named Executive Officers.

Name and Principal Position	Year	Salary ($)	Stock Options ($)[1]	Restricted Stock Units (RSUs) ($)[1]	Non-Equity Incentive Plan Compensation ($)[2]	All Other Compensation ($)[3]	Total ($)
Joseph P. Hagan	2020	551,500	1,507,054	—	264,720	9,860	2,333,134
President & Chief Executive Officer	2019	535,600	540,342	69,079	860,652	8,610	2,014,283
Christopher R. Aker	2020	315,000	351,646	—	132,300	10,172	809,118
SVP & General Counsel	2019	290,000	188,913	23,696	275,500	9,798	787,907
Cris Calsada	2020	315,000	251,176	—	132,300	9,350	707,826
Chief Financial Officer	2019	104,526	151,749	—	45,965	636	302,876

(1) In accordance with SEC rules, this column reflects the aggregate grant date fair value of the stock awards granted during the years indicated, computed in accordance with Financial Accounting Standard Board ASC Topic 718 for stock-based compensation transactions, or ASC 718. Assumptions used in the calculation of these amounts are included in Note 10 to the Financial Statements in our Annual Report on Form 10-K for the year ended December 31, 2020. These amounts do not reflect the actual economic value that will be realized by the Named Executive Officer upon the vesting of the stock awards, the exercise of the stock options, or the sale of the common stock underlying such stock awards. The grant date fair value of the stock awards granted during 2020 that vest based on performance conditions is reported based on the probable outcome of such performance conditions, as determined in accordance with ASC 718, which is the same as the grant date fair value of such awards at the grant date, assuming that the highest level of performance conditions will be achieved.

(2) Amounts shown include annual performance bonuses paid to Mr. Hagan, Mr. Aker and Ms. Calsada, earned for the years indicated. For more information, see below under "Annual Performance-Based Bonus Opportunity." The 2019 amounts shown for Mr. Hagan and Mr. Aker also include a Board of Directors approved discretionary bonus and retention award paid in recognition of their contributions following our July 2018 corporate restructuring and reduction in workforce and our entry into a private placement financing transaction in May 2019.

(3) Amounts shown include term life insurance and long-term disability insurance paid by us on behalf of the Named Executive Officers, matching payments made to the NEO's Health Savings Account (if the NEO participated in our high deductible health plan) and matching contributions we paid under the terms of our 401(k) plan. All of these benefits are provided to the Named Executive Officers on the same terms as provided to all of our regular full-time employees in the United States. For more information regarding these benefits, see below under "Other Compensation."

Narrative Disclosure to Summary Compensation Table

The three principal components of our executive compensation program for our Named Executive Officers in 2020 were base salary, annual performance-based bonus opportunity and equity compensation. We do not have any formal policies for allocating compensation among salary, performance bonus awards and equity grants, short-term and long-term compensation or among cash and non-cash compensation. Instead, the Compensation Committee uses its judgment to establish a total compensation program for each named executive officer that is a mix of current, short-term and long-term incentive compensation, and cash and non-cash compensation, that it believes appropriate to achieve the goals of our executive compensation program and our corporate objectives. In line with our pay for performance philosophy, we structured a significant portion of our Named Executive Officers' 2020 compensation to be variable, at risk and tied directly to our measurable performance in the form of performance-based bonuses and equity incentives.

The Compensation Committee uses the services of an independent compensation consultant who is retained by, and reports directly to, the Compensation Committee to provide the Compensation Committee with an additional external perspective with respect to its evaluation of relevant market and industry practices. Since 2013, the Compensation Committee has used Radford, an AON Hewitt Company, as a third-party compensation consultant to assist the Compensation Committee in establishing overall compensation levels. Radford conducted analyses and provided advice on, among other things, the appropriate peer group, executive compensation for our executive officers and compensation trends in the life sciences industry.

The peer group of companies used by the Compensation Committee in making 2020 compensation decisions was comprised of the following companies:

Alpine Immune Sciences	aTyr Pharma	Caladrius Biosciences	Calithera Biosciences	Capricor Therapeutics
Catalyst Biosciences	Chimerix	Cidara Therapeutics	Conatus Pharmaceuticals	ContraFect
Corvus Pharmaceuticals	Flex Pharma	Infinity Pharmaceuticals	Lineage Cell Therapeutics	Miragen Therapeutics
Otonomy	Protagonist Therapeutics	Sienna Biopharmaceuticals	Sunesis Pharmaceuticals	Synthetic Biologics
Tocagen	TRACON Pharmaceuticals			

The peer group was recommended by Radford and chosen in late-2019 based on the following parameters: biopharmaceutical companies that were pre-commercial and with programs in early clinical development, had market values generally under $200 million and with a preference for companies with headcounts under 100. At the time we choose our peer group companies, our market value was approximately $15 million and our headcount was 24 employees.

Base Salary

In December 2019, the Compensation Committee reviewed the base salaries for our then-current Named Executive Officers, the market data from Radford, our 3% Company-wide corporate merit increase target for base salaries, the scope of each executive's responsibilities for 2019, each executive's prior experience and internal pay equity in order to determine 2020 base salaries of our NEOs.

The Named Executive Officers' 2020 annual base salaries (effective January 1, 2020) and increases from 2019 annual base salaries approved by the Compensation Committee were as follows:

Name	2020 Base Salary ($)	Increase from 2019 Base Salary (%)
Joseph P. Hagan	551,500	3.0%
Christopher R. Aker	315,000	8.6%
Cris Calsada	315,000	1.6%

Annual Performance-Based Bonus Opportunity

The annual performance-based bonus each Named Executive Officer is eligible to receive is based on (1) the individual's target bonus, as a percentage of base salary, (2) a Company-based performance factor ("CPF"), and (3) an individual performance factor ("IPF"). The actual performance-based bonus paid, if any, is calculated by taking into consideration the executive officer's annual base salary, target bonus percentage, percentage attainment of the CPF and percentage attainment of the IPF. Except for the Chief Executive Officer whose entire annual bonus depends upon the CPF, 20% of each other NEO's annual bonus is also dependent upon such individual's IPF. At the end of the year, our Compensation Committee approves the extent to which we achieved the CPF based on achievement of the corporate goals. The extent to which each individual Named Executive Officer achieves his or her IPF is determined based on our Chief Executive Officer's review and recommendation to our Compensation Committee, except our Chief Executive Officer and our other Named Executive Officers do not make recommendations with respect to their own achievement, and our Compensation Committee makes the final decisions with respect to each IPF. Additionally, our Compensation Committee has the discretion to determine the weighting of each of the goals that comprise the CPF and IPF. Our Compensation Committee may award a bonus in an amount above or below the amount resulting from the calculation described above, based on other factors that our Compensation Committee determines, in its sole discretion, are material to our corporate performance and provide appropriate incentives to our executives, for example based on events or circumstances that arise after the original CPF and IPF goals are set. Our Compensation Committee did not exercise any such discretion in 2020.

Each Named Executive Officer's target bonus for 2020, represented as a percentage of base salary, or a target bonus percentage, was 50% of base salary, with the exception of Mr. Hagan's target bonus percentage, which was 60% of base salary.
The Compensation Committee determined the target bonuses of each of our NEOs other than our Chief Executive Officer should be consistent to promote internal equity and reinforce teamwork across our leadership team.

The CPF and IPF goals are determined by our Compensation Committee and communicated to our Named Executive Officers each year, prior to or shortly following the beginning of the year to which they relate. The CPF is composed of several goals that relate to our annual corporate goals and various business accomplishments which vary from time to time depending on our overall strategic objectives. The IPF is composed of factors that relate to each Named Executive Officer's ability to drive his or her own performance and the performance of his or her direct employee reports towards reaching our corporate goals. The proportional emphasis placed on each goal within the CPF and IPF may vary from time to time depending on our overall strategic objectives and our Compensation Committee's subjective determination of which goals have more impact on our performance.

For 2020, the CPF goals related primarily to advancing our most promising program, RGLS4326 for the treatment of autosomal dominant polycystic kidney disease ("ADPKD"), while also make some progress on our preclinical pipeline. The specific CPF goals were as follows:

- Complete the RGLS4326 Multiple Ascending Dose (the "MAD") study in healthy volunteers with top-line data by mid-year 2020;
- Start the RGLS4326 Mechanism of Action (the "MOA") study by early fourth quarter of 2020;
- Gain alignment or input from FDA on a framework for addressing the requirements for the partial clinical hold;
- Nominate a development candidate for at least one research program by year end 2020;
- Advance a discovery research program to lead identification; and
- Extend our cash runway by providing sufficient cash to complete the Mechanism of Action study.

In December 2020, after careful review, our Board of Directors, upon the recommendation of our Compensation Committee, concluded that we had achieved 80% of our CPF goals, based on the following:

- We initiated the MAD study on time and completed the study despite the challenges of the COVID pandemic;
- We redesigned the MOA study to an adaptive open-label design, saving money, providing optionality based on clinical outcomes and generating additional data for our future interactions with the U.S. Food & Drug Administration concerning this program. While we did not seek to gain alignment from FDA on our remaining clinical hold requirements we did engage key experts to build a robust model based on the new data generated from the additional preclinical work to better address the remaining hold requirements;
- We commenced the MOA study enrolling the first patient in October 2020 and were on track to have the first cohort of the study fully enrolled by January 2021 thereby enabling data at the end of the first quarter of 2021;

- We advanced toward development two candidates from other preclinical programs, although we did not nominate a candidate;
- We commenced new research around possible targets in new therapeutic areas and produced some early promising data; and
- We closed a private financing netting approximately $18.2 million to fund on our ongoing development programs.

The IPF goals varied by individual and included individual performance contributions towards maintaining a leading position in *micro*RNA research, accelerating efforts in *micro*RNA therapeutic development, supporting our growth with additional capital, fostering a culture of value creation, attracting and retaining key talent and building good processes and policies. Our Chief Executive Officer did not have IPF goals as his bonus is entirely dependent on our CPF goals, because our Chief Executive Officer has a direct impact on, and responsibility for, our corporate performance.

Based on our Chief Executive Officer's recommendations with respect to each other Named Executive Officer, and our Compensation Committee's deliberations with respect to each Named Executive Officer's individual performance against the IPF, our Compensation Committee and Board of Directors approved a performance-based bonus for each of our Named Executive Officers as set forth in the table below based on a 80% CPF and IPF as indicated, weighted 80% and 20%, respectively, except for our Chief Executive Officer, whose bonus was weighted 100% on CPF goals:

Name	Target Bonus ($)	IPF Achievement (%)	Cash Bonus Paid ($)
Joseph P. Hagan	$ 330,900	—	$ 264,720
Christopher Aker[(1)]	$ 157,500	100%	$ 132,300
Cris Calsada[(2)]	$ 157,500	100%	$ 132,300

(1) Mr. Aker's performance-based bonus was approved based on 80% CPF and 100% IPF in recognition of his roles in procuring additional capital, assisting in the initiation of the RGLS4326 MOA study including contracting with the clinical sites, his operational leadership concerning our response to the COVID pandemic and his role in recruiting additional scientific talent.
(2) Ms. Calsada's performance-based bonus was approved based on the 80% CPF and 100% IPF in recognition of her leadership in procuring additional capital, her active management of our research and administrative budgets, and her oversight of financial reporting.

Equity-Based Incentive Awards

Equity incentives are a key component of our executive compensation program that the Compensation Committee believes motivate executive officers to achieve our business objectives by tying incentives to the appreciation of our common stock and, in the case of performance-vesting awards, measurable performance goals. In the past, we have primarily granted equity awards in the form of stock options that vest based on achievement of specific Company performance goals and/or continued service and, more recently, RSU stock awards that vest based on continued service.

Stock Awards. In 2020, each of our Named Executive Officers received time-vesting stock options and performance-based stock options in the amounts listed below.

Name	Time-Vesting Stock Options (# of shares)[(1)]	Performance-Vesting Stock Options (# of shares)[(2)]
Joseph P. Hagan	900,000	600,000
Christopher R. Aker	210,000	140,000
Cris Calsada	150,000	100,000

(1) Consists of a stock option granted on January 22, 2020 with a vesting commencement date of January 1, 2020 with an exercise price of $1.31per share vesting in equal monthly installments over a 48 month period, subject to the recipient's continued service to the Company through each such vesting date.
(2) Consists of two equal performance-vesting stock options granted on January 22, 2020 with an exercise price of $1.31 per share. The options will vest only upon achievement of two specified development goals related to our RGLS4326 program. Upon achievement of each goal, 50% of the options subject to the grant immediately vested with the remaining options vesting in equal monthly installments over the following 24 months, subject to the recipient's continued service to the Company through each such vesting date.

The performance-vesting stock options vest and can be earned only if performance goals key to our future success are achieved (in addition to continued service), thereby further incentivizing our Named Executive Officers to achieve these goals to drive increases in our long-term value for stockholders.

Other Compensation

Our Named Executive Officers are eligible to participate in all of our employee benefit plans, including our medical, dental, vision, group life and disability insurance plans, in each case on the same basis as other employees. We also pay the premiums for term life insurance and long-term disability for all of our employees, including our Named Executive Officers. None of our Named Executive Officers participate in or have account balances in qualified or non-qualified defined benefit plans sponsored by us. We generally do not provide perquisites or personal benefits to our Named Executive Officers, although we may from time to time provide signing bonuses or other reasonable benefits as our Compensation Committee determines appropriate.

All of our full-time employees in the United States, including our Named Executive Officers, are eligible to participate in our 401(k) plan, which is a retirement savings defined contribution plan established in accordance with Section 401(a) of the Code. Pursuant to our 401(k) plan, employees may elect to defer their eligible compensation into the plan on a pre-tax basis, up to the statutorily prescribed annual limit of $19,500 in 2020 (additional salary deferrals not to exceed $6,500 are available to those employees 50 years of age or older) and to have the amount of this reduction contributed to our 401(k) plan. In 2020, we provided a $0.50 match for every dollar our employees elect to defer up to 6% of their eligible compensation. In general, eligible compensation for purposes of the 401(k) plan includes an employee's wages, salaries, fees for professional services and other amounts received for personal services actually rendered in the course of employment with us to the extent the amounts are includible in gross income, and subject to certain adjustments and exclusions required under the Code. The 401(k) plan currently does not offer the ability to invest in our securities.

Agreements with Named Executive Officers

Employment Agreements. We entered into employment agreements with each of our Named Executive Officers. The agreements provide for at will employment and for certain base salary, target bonus and severance payments to our Named Executive Officers.

Employment Agreement with Mr. Hagan. In December 2015, we entered into an employment agreement with Mr. Hagan, with an effective date of January 1, 2016. Pursuant to his employment agreement, Mr. Hagan is entitled to receive an annual base salary of $415,000 and is eligible to receive an annual performance bonus, with a target bonus amount of 40% of his annual base salary. Mr. Hagan's base salary and target bonus are subject to periodic review and adjustment from time to time in the discretion of our Board of Directors or the Compensation Committee and have been subsequently increased. In May 2017, Mr. Hagan was appointed as our President and Chief Executive Officer. At that time, his base salary was increased to $500,000 and his target bonus was increased to 50%. Additionally, Mr. Hagan's employment agreement provides for the grant of stock option awards, which were made in January 2016. Pursuant to Mr. Hagan's employment agreement, all outstanding stock options subject to vesting based on Company performance that are held by Mr. Hagan immediately before a change in control shall become fully vested and exercisable as of immediately before, and contingent upon, the change in control, provided that Mr. Hagan remains employed by us as of such date. In 2020, Mr. Hagan's base salary was increased to $551,500 and his target bonus (which was increased in 2019) remained at 60% of his annual base salary.

If we terminate Mr. Hagan's employment without cause (other than due to his death or complete disability) or if Mr. Hagan resigns for good reason at any time other than during the period beginning one month before and ending 12 months following a change in control, Mr. Hagan will receive, subject to receiving an effective release and waiver of claims from him, (1) a lump sum severance payment equal to 12 months of his then-current base salary (disregarding any decrease that forms the basis for a resignation for good reason), (2) a lump sum cash amount equal to 229.56% multiplied by the total cost of the projected premiums for group medical, dental and vision insurance for a period of 12 months and (3) vesting acceleration of all outstanding options and other equity incentive awards subject to time-based vesting held by Mr. Hagan as of such termination or resignation.

If we terminate Mr. Hagan's employment without cause (other than due to his death or complete disability) or if Mr. Hagan resigns for good reason, in each case during the period beginning one month before and ending 12 months following a change in control, in addition to the severance payment described above, we will also be obligated to pay Mr. Hagan, subject to receiving an effective release and waiver of claims from him, a lump sum payment equal to the target amount of Mr. Hagan's annual performance bonus for the year of termination or resignation.

Employment Agreement with Mr. Aker. In July 2018, we entered into an amended and restated employment agreement with Mr. Aker. Pursuant to his amended and restated employment agreement, Mr. Aker is entitled to receive an annual base

salary of $246,376 and is eligible to receive an annual performance bonus, with a target bonus amount of 50% of his annual base salary. Mr. Aker's base salary and target bonus are subject to periodic review and adjustment from time to time in the discretion of our Board of Directors or the Compensation Committee and his base salary has been subsequently increased. Pursuant to Mr. Aker's amended and restated employment agreement, all outstanding stock options subject to vesting based on Company performance that are held by Mr. Aker immediately before a change in control shall become fully vested and exercisable as of immediately before, and contingent upon, the change in control, provided that Mr. Aker remains employed by us as of such date. In 2020, Mr. Aker's base salary was increased to $315,000 and his target bonus remained at 50% of his annual base salary.

If we terminate Mr. Aker's employment without cause (other than due to his death or complete disability) or if Mr. Aker resigns for good reason at any time other than during the period beginning one month before and ending 12 months following a change in control, Mr. Aker will receive, subject to receiving an effective release and waiver of claims from him, (1) a lump sum severance payment equal to 12 months of his then-current base salary (disregarding any decrease that forms the basis for a resignation for good reason), (2) a lump sum cash amount equal to 229.56% multiplied by the total cost of the projected premiums for group medical, dental and vision insurance for a period of 12 months and (3) vesting acceleration of all outstanding options and other equity incentive awards subject to time-based vesting held by Mr. Aker as of such termination or resignation.

If we terminate Mr. Aker's employment without cause (other than due to his death or complete disability) or if Mr. Aker resigns for good reason, in each case during the period beginning one month before and ending 12 months following a change in control, in addition to the severance payment described above, we will also be obligated to pay Mr. Aker, subject to receiving an effective release and waiver of claims from him, a lump sum payment equal to the target amount of Mr. Aker's annual performance bonus for the year of termination or resignation.

Employment Agreement with Ms. Calsada. In August 2019, we entered into an employment agreement with Ms. Calsada with an effective date of August 30, 2019 upon her commencement of employment as our Chief Financial Officer. Pursuant to her employment agreement, Ms. Calsada is entitled to receive an annual base salary of $310,000 and is eligible to receive an annual performance bonus, with a target bonus amount of 50% of her annual base salary. Ms. Calsada's base salary and target bonus are subject to periodic review and adjustment from time to time in the discretion of our Board of Directors or the Compensation Committee and her base salary has been subsequently increased. At the time she commenced her employment with us, Ms. Calsada also received an initial stock option grant of 100,000 shares. Pursuant to Ms. Calsada's employment agreement, all outstanding stock options subject to vesting based on Company performance that are held by Ms. Calsada immediately before a change in control shall become fully vested and exercisable as of immediately before, and contingent upon, the change in control, provided that Ms. Calsada remains employed by us as of such date. In 2020, Ms. Calsada's base salary was increased to $315,000 and her target bonus remained at 50% of her annual base salary.

If we terminate Ms. Calsada's employment without cause (other than due to her death or complete disability) or if Ms. Calsada resigns for good reason at any time other than during the period beginning one month before and ending 12 months following a change in control, Ms. Calsada will receive, subject to receiving an effective release and waiver of claims from her, (1) a lump sum severance payment equal to 12 months of her then-current base salary (disregarding any decrease that forms the basis for a resignation for good reason), (2) a lump sum cash amount equal to 229.56% multiplied by the total cost of the projected premiums for group medical, dental and vision insurance for a period of 12 months and (3) vesting acceleration of all outstanding options and other equity incentive awards subject to time-based vesting held by Ms. Calsada as of such termination or resignation.

If we terminate Ms. Calsada's employment without cause (other than due to her death or complete disability) or if Ms. Calsada resigns for good reason, in each case during the period beginning one month before and ending 12 months following a change in control, in addition to the severance payment described above, we will also be obligated to pay Ms. Calsada, subject to receiving an effective release and waiver of claims from her, a lump sum payment equal to the target amount of Ms. Calsada's annual performance bonus for the year of termination or resignation.

Change in Control and Severance Benefits

Under the terms of the employment agreements with each of our Named Executive Officers described above, either we or the executive may terminate the executive's employment at any time. Each of our Named Executive Officers is eligible, under the terms of his or her respective employment agreement, to receive, in exchange for a release of claims, severance benefits upon the termination of employment either by us without cause or by the executive for good reason, with additional severance benefits provided in the event the termination is in connection with a change in control. In addition, the terms of the equity awards granted to our Named Executive Officers are subject to the terms of our equity plans and award agreements thereunder, which includes accelerated vesting provisions upon certain material change in control transactions. We do not provide any excise tax gross-ups on change-in-control benefits.

Outstanding Equity Awards at Fiscal Year-End

The following table shows certain information regarding outstanding equity awards as of December 31, 2020 for the Named Executive Officers:

		Option Awards[1]					Stock Awards[1]	
Name	Grant Date	Number of Securities Underlying Unexercised Stock Options (#) Exerciseable	Number of Securities UnderlyingUnexercised Stock Options (#) Unexerciseable	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested ($)(2)
Joseph P. Hagan	11/12/2018[3]						164,837	31,790
	2/5/2019[4]	31,145	33,855		0.95	2/4/2029		
	2/5/2019[5]	8,958	1,042		0.95	2/4/2029		
	10/10/2019[4]	170,083	416,948		0.64	10/09/2029		
	1/22/2020[4]	206,250	675,000		1.31	1/21/2030		
	1/22/2020[7]			300,000	1.31	1/21/2030		
	1/22/2020[7]			300,000	1.31	1/21/2030		
Christopher R. Aker	11/12/2018[3]						33,698	6,499
	2/5/2019[4]	11,979	13,021		0.95	2/4/2029		
	2/5/2019[5]	6,718	782		0.95	2/4/2029		
	10/10/2019[4]	97,708	237,292		0.64	10/09/2029		
	1/22/2020[4]	48,125	161,875		1.31	1/21/2030		
	1/22/2020[7]			70,000	1.31	1/21/2030		
	1/22/2020[7]			70,000	1.31	1/21/2030		
Cris Calsada	8/30/2019[6]	33,333	66,667		0.62	8/29/2029		
	10/10/2019[6	61,250	148,750		0.64	10/09/2029		
	1/22/2020[4]	34,375	115,625		1.31	1/21/2030		
	1/22/2020[7]			50,000	1.31	1/21/2030		
	1/22/2020[7]			50,000	1.31	1/21/2030		

(1) Stock awards granted prior to October 2019 were granted under the 2012 Equity Incentive Plan. Stock awards granted thereafter were granted under the 2019 Equity Incentive Plan. The terms of the 2012 Equity Incentive Plan and 2019 Equity Incentive Plan are described below under “Equity Compensation Plans and Other Benefit Plans.”

(2) Represents the number of unvested RSUs multiplied by the closing stock price as of December 31, 2020.

(3) Consists of performance-vesting RSUs granted to each Named Executive Officer in the tender offer completed in November 2018, in which eligible options were exchanged for RSUs on a value-for-value basis. The new RSUs that our employees received in the exchange offer can be earned only if performance goals key to our future success are achieved (in addition to continued service). On May 14, 2019, the Board of Directors concluded the Company had met the criteria to commence vesting of the RSUs consisting of a Board-approved transaction which the Board, in its sole discretion, determines is reasonably expected to provide adequate cash runway for achievement of the Company’s strategic objectives. Because of the achievement of the performance objective, 50% of the RSUs subject to the grant immediately vested with the remaining RSUs vesting in quarterly installments over the following 24 months, subject to the recipient’s continued service to the Company through each such vesting date. The number of shares underlying outstanding stock options held by each Named Executive Officers as of immediately before the tender offer exchange in November 2018 were as follows: Mr. Hagan: 278,714 shares; Mr. Aker: 62,297.

(4) Consists of stock options vesting in equal monthly installments over a 48 month period, subject to the recipient's continued service to the Company through each such vesting date.

(5) Consists of performance-vesting stock option with an exercise price of $0.95 per share, which only vest upon achievement of a previously-specified performance objective. On May 14, 2019, the Board of Directors concluded the Company had met the criteria to commence vesting of the performance-vesting stock option consisting of a Board-approved transaction which the Board, in its sole discretion, determines is reasonably expected to provide adequate cash runway for achievement of the Company's strategic objectives. Because of the achievement of the performance objective, 50% of the shares subject to the grant immediately vested with the remaining shares vesting in equal monthly installments over the following 24 months, subject to the recipient's continued service to the Company through each such vesting date.

(6) Consists of a stock option that vests as follows: 25% of the shares subject to the grant vest on the first anniversary of the grant with the remainder vesting in equal monthly installments over a 36 month period, subject to the recipient's continued service to the Company through each such vesting date.

(7) Consists of performance-vesting stock option with an exercise price of $1.31 per share which only vest upon achievement of a previously-specified performance objective. Upon achievement of the performance objective, 50% of the shares subject to the grant immediately vested with the remaining shares vesting in equal monthly installments over the following 24 months, subject to the recipient's continued service to the Company through each such vesting date.

Equity Compensation Plans

From October 2012 until August 2019, all equity awards (other than inducement awards) were granted pursuant to our 2012 Equity Incentive Plan (the "2012 Plan"). Beginning in August 2019, all equity awards (other than inducement awards) will be granted pursuant to our 2019 Equity Incentive Plan (the "2019 Plan"). In addition, we may grant inducement awards to new employees under our 2015 Inducement Plan ("2015 Inducement Plan"). The terms of these plans are described below.

2019 Equity Incentive Plan

The 2019 Plan, which became effective in August 2019, provides for the grant of incentive stock options, or ISOs, within the meaning of Section 422 of the Code, nonstatutory stock options, or NSOs, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance-based stock awards, and other forms of equity compensation, or collectively, stock awards. Additionally, the 2019 Plan provides for the grant of performance cash awards. ISOs may be granted only to employees, subject to certain limitations. All other awards may be granted to employees, including officers, and to non-employee directors and consultants.

Our Board of Directors, or a duly authorized committee thereof, has the authority to administer the 2019 Plan. Our Board of Directors has delegated its authority to administer the 2019 Plan to our Compensation Committee under the terms of our Compensation Committee's charter. Our Board of Directors may also delegate certain authority to one or more of our officers. Our Board of Directors or its authorized committee is referred to herein as the plan administrator.

Stock options are generally granted with an exercise price equal to the fair market value of our common stock on the date of grant, vest at the rate specified by the plan administrator (often over a four-year period) and may have a term up to a maximum of 10 years. The exercise price for an ISO or NSO generally cannot be less than 100% of the fair market value of our common stock on the date of grant. Unless the terms of an optionee's stock option agreement provides otherwise, if an optionee's service relationship with us, or any of our affiliates, ceases for any reason other than disability, death or cause, the optionee may generally exercise any vested options for a period of three months following the cessation of service. The option term may be extended in the event that exercise of the option following such a termination of service is prohibited by applicable securities laws or our insider trading policy. If an optionee's service relationship with us, or any of our affiliates, ceases due to disability or death, or an optionee dies within a certain period following cessation of service, the optionee or a beneficiary may generally exercise any vested options for a period of 12 months in the event of disability and 18 months in the event of death. In the event of a termination for cause, options generally terminate immediately upon the termination of the individual. In no event may an option be exercised beyond the expiration of its term.

Restricted stock units generally stop vesting upon the holder's termination of service with us and any unvested restricted stock units are forfeited, unless otherwise provided in an agreement with the holder.

Corporate transactions. In the event of certain specified significant corporate transactions (as defined in the 2019 Plan), the plan administrator has the discretion to take any of the following actions with respect to stock awards:

- arrange for the assumption, continuation or substitution of a stock award by a surviving or acquiring entity or parent company;
- arrange for the assignment of any reacquisition or repurchase rights held by us to the surviving or acquiring entity or parent company;
- accelerate the vesting of the stock award and provide for its termination prior to the effective time of the corporate transaction;
- arrange for the lapse of any reacquisition or repurchase right held by us;
- cancel or arrange for the cancellation of the stock award in exchange for such cash consideration, if any, as our Board of Directors may deem appropriate; or
- make a payment equal to the excess of (a) the value of the property the participant would have received upon exercise of the stock award over (b) the exercise price otherwise payable in connection with the stock award.

Change in control. The plan administrator may provide, in an individual award agreement or in any other written agreement between a participant and us, that the stock award will be subject to additional acceleration of vesting and exercisability in the event of a change in control (as defined in the 2019 Plan). For example, a stock award may provide for accelerated vesting upon the participant's termination without cause or resignation for good reason in connection with a change in control. In the absence of such a provision, no such acceleration of the stock award will occur.

Repricings. The plan administrator may not: (i) reduce the exercise price of any outstanding options, or (ii) cancel any outstanding options that have an exercise price greater than the current fair market value of the Company's common stock in exchange for cash or other stock awards under the 2019 Plan, unless the stockholders of the Company have approved such an action within twelve months prior to such an event.

Amendment and termination. The Board has the authority to amend, suspend, or terminate the 2019 Plan, provided that such action does not materially impair the existing rights of any participant without such participant's written consent. No ISOs may be granted after the tenth anniversary of the date our Board of Directors adopted the 2019 Plan.

2012 Equity Incentive Plan

The 2012 Plan, which became effective in connection with our initial public offering in October 2012, and was in effect until the approval by our stockholders of our 2019 Plan in August 2019. The 2012 Plan provided for the grant of ISOs, NSOs, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance-based stock awards, and other forms of equity compensation, or collectively, stock awards. Additionally, the 2012 Plan provided for the grant of performance cash awards. ISOs were to be granted only to employees, subject to certain limitations. All other awards could be granted to employees, including officers, and to non-employee directors and consultants.

Our Board of Directors, or a duly authorized committee thereof, administered the 2012 Plan. Our Board of Directors had delegated its authority to administer the 2012 Plan to our Compensation Committee under the terms of our Compensation Committee's charter. Our Board of Directors also delegated certain authority to one or more of our officers. Our Board of Directors or its authorized committee is referred to herein as the plan administrator.

Stock options are generally granted with an exercise price equal to the fair market value of our common stock on the date of grant, vest at the rate specified by the plan administrator (often over a four-year period) and may have a term up to a maximum of 10 years. The exercise price for an ISO or NSO generally cannot be less than 100% of the fair market value of our common stock on the date of grant. Unless the terms of an optionee's stock option agreement provides otherwise, if an optionee's service relationship with us, or any of our affiliates, ceases for any reason other than disability, death or cause, the optionee may generally exercise any vested options for a period of three months following the cessation of service. The option term may be extended in the event that exercise of the option following such a termination of service is prohibited by applicable securities laws or our insider trading policy. If an optionee's service relationship with us, or any of our affiliates, ceases due to disability or death, or an optionee dies within a certain period following cessation of service, the optionee or a beneficiary may generally exercise any vested options for a period of 12 months in the event of disability and 18 months in the event of death. In the event of a termination for cause, options generally terminate immediately upon the termination of the individual. In no event may an option be exercised beyond the expiration of its term. Restricted stock units generally stop vesting upon the holder's termination of service with us and any unvested restricted stock units are forfeited, unless otherwise provided in an agreement with the holder.

Corporate transactions. In the event of certain specified significant corporate transactions (as defined in the 2012 Plan), the plan administrator has the discretion to take any of the following actions with respect to stock awards:

• arrange for the assumption, continuation or substitution of a stock award by a surviving or acquiring entity or parent company;
• arrange for the assignment of any reacquisition or repurchase rights held by us to the surviving or acquiring entity or parent company;
• accelerate the vesting of the stock award and provide for its termination prior to the effective time of the corporate transaction;
• arrange for the lapse of any reacquisition or repurchase right held by us;
• cancel or arrange for the cancellation of the stock award in exchange for such cash consideration, if any, as our Board of Directors may deem appropriate; or
• make a payment equal to the excess of (a) the value of the property the participant would have received upon exercise of the stock award over (b) the exercise price otherwise payable in connection with the stock award.

Change in control. The plan administrator may provide, in an individual award agreement or in any other written agreement between a participant and us, that the stock award will be subject to additional acceleration of vesting and exercisability in the event of a change in control (as defined in the 2012 Plan). For example, a stock award may provide for accelerated vesting upon the participant's termination without cause or resignation for good reason in connection with a change in control. In the absence of such a provision, no such acceleration of the stock award will occur.

2012 Employee Stock Purchase Plan

Additional long-term equity incentives are provided through the 2012 Employee Stock Purchase Plan (the "ESPP"), which became effective in connection with our initial public offering in October 2012. The ESPP is intended to qualify as an "employee stock purchase plan" within the meaning of Section 423 of the Code. Our Board of Directors has delegated its authority to administer the ESPP to our Compensation Committee. Under the ESPP, generally all of our regular employees (including our Named Executive Officers during their employment with us) may participate and may contribute, normally through payroll deductions, up to 15% of their earnings for the purchase of our common stock. The ESPP is implemented through a series of offerings of purchase rights to eligible employees. Under the ESPP, we may specify offerings with a duration of not more than six months, and may specify shorter purchase periods within each offering. Each offering will have one or more purchase dates on which our common stock will be purchased for employees participating in the offering. Unless otherwise determined by our Compensation Committee, shares are purchased for accounts of employees participating in the ESPP at a price per share equal to the lower of (a) 85% of the fair market value of our common stock on the first date of an offering or (b) 85% of the fair market value of our common stock on the date of purchase.

Equity Compensation Plan Information

The following table provides information as of December 31, 2020, with respect to shares of our common stock that may be issued under our existing equity compensation plans:

	(a)	(b)	(c)
Plan Category	**Number of securities to be issued upon exercise of outstanding options, awards, warrants and rights**	**Weighted-average exercise price of outstanding options, awards, warrants and rights**	**Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))**
Equity compensation plans approved by stockholders:			
2009 Equity Incentive Plan	912 [1]	$31.34	—
2012 Equity Incentive Plan	203,464 [2]	$5.59	—
2019 Equity Incentive Plan	6,608,684 [1]	$0.96	868,432
2012 Employee Stock Purchase Plan	—	—	187,689
Equity compensation plans not approved by stockholders:			
None			

(1) All shares issuable upon exercise of options.

(2) Consists of 203,464 shares issuable upon exercise of options and 34,301 restricted stock units.

DIRECTOR COMPENSATION

The following table shows certain information with respect to the compensation of all non-employee directors of the Company for the fiscal year ended December 31, 2020:

Name	Fees Earned or Paid in Cash($)[1]	Option Awards ($)[2]	Total ($)
David Baltimore, Ph.D.[4]	48,000	15,544[3]	63,544
Kathryn J. Collier[4]	60,000	15,544[3]	75,544
Jake Nunn[4]	50,000	15,544[3]	65,544
Stelios Papadopoulos, Ph.D.[4]	84,000	15,544[3]	99,544
William H. Rastetter, Ph.D.[4]	52,000	15,544[3]	67,544
Hugh Rosen, M.D., Ph.D.[4]	46,000	15,544[3]	61,544
Simos Simeonidis, Ph.D.[4]	0	15,544[3]	15,544
Pascale Witz[4]	46,000	15,544[3]	61,544

(1) Amounts listed represent cash payments made for Board and Committee service which were earned in 2020. Dr. Simeonidis is required by his employer, Sarissa Capital, to assign his cash payments to Sarissa Capital.

(2) Amounts listed represent the aggregate grant date fair value amount computed as of the grant date of each option awarded during 2020 in accordance with ASC 718. Assumptions used in the calculation of these amounts are included in Note 10 to the Financial Statements in our Annual Report on Form 10-K for the year ended December 31, 2020.

(3) Represents the annual option grant to purchase 23,350 shares of our common stock granted to each of our non-employee directors serving on June 16, 2020 under our non-employee director compensation policy, as further described below.

(4) As of December 31, 2020, each director held outstanding options to purchase 58,125 shares.

Directors who are also employees do not receive cash or equity compensation for service on our Board of Directors in addition to the compensation payable for their service as our employees. We have a non-employee director compensation policy, or our director compensation policy, that became effective following our initial public offering. Under our director compensation policy, our Compensation Committee determines individual non-employee members of our Board of Directors who will be eligible to receive compensation and who we refer to as our Eligible Directors. All of our non-employee directors were Eligible Directors for 2020 compensation under our director compensation policy. Pursuant to our director compensation policy in effect in 2020, we provide cash compensation in the form of an annual retainer of $40,000 to each of our Eligible Directors and $70,000 to our Chairman of the Board. We also pay an additional annual retainer of $20,000 to the chairman of our Audit Committee, $10,000 to other independent Eligible Directors who serve on our Audit Committee, $12,000 to the chairman of our Compensation Committee, $6,000 to other independent Eligible Directors who serve on our Compensation Committee, $8,000 to the chairman of our Nominating and Corporate Governance Committee and $4,000 to other independent Eligible Directors who serve on our Nominating and Corporate Governance Committee. We have reimbursed and will continue to reimburse our non-employee directors for travel, lodging and other reasonable expenses incurred in attending meetings of our Board of Directors and committees of our Board of Directors.

Pursuant to our director compensation policy, each Eligible Director who is first elected to our Board of Directors is granted an option to purchase shares of the Company's common stock on the date of his or her initial election to our Board of Directors. The number of options is usually determined in December of the prior year. In addition, the Board of Directors also determines the number of stock options to be awarded to each director re-elected at our next annual stockholder meeting.

In December 2019, the Board of Directors, upon the recommendation of the Compensation Committee, approved (i) an initial option grant of shares to any new Eligible Directors appointed to the Board in 2020 and (ii) an annual option grant to each Eligible Director re-elected at our annual meeting of stockholders in 2020 of 23,250 shares.

Each initial option granted to such Eligible Directors described above will vest and become exercisable with respect to one-third of the shares subject to the option on the first anniversary of the date of grant and the balance of the shares will vest and become exercisable in a series of 24 equal monthly installments thereafter, such that the option is fully vested on the third

anniversary of the date of grant, subject to the Eligible Director continuing to provide services to us through such dates. Each annual option granted to such Eligible Directors described above will vest and become exercisable in 12 equal monthly installments such that the option will be fully vested on the first anniversary of the date of grant, or as of the date of the next annual meeting of the Company's stockholders, whichever occurs first and subject to the Eligible Director continuing to provide services to us through such dates. The term of each option granted to an Eligible Director is 10 years. All awards granted under our director compensation policy will vest in full upon the closing of a change in control of the Company.

In January 2021, Alice Huang, Ph.D., was appointed to our Board of Directors, and the Compensation Committee determined that Dr. Huang is an Eligible Director under our director compensation policy. Accordingly, in January 2021, following determination of the appropriate number of options by our Board of Directors in December 2020, Dr. Huang was granted an initial option grant to purchase 80,000 shares of our common stock at an exercise price of $1.55 per share. These options will vest and become exercisable as provided under our director compensation policy.

The options granted to our non-employee directors are granted under our 2019 Plan, the terms of which are described in more detail above under "Equity Compensation Plans and Other Benefit Plans-2019 Equity Incentive Plan."

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

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information regarding the ownership of the Company's common stock as of February 28, 2021 by: (i) each of our directors; (ii) each of our Named Executive Officers as defined above under the heading "Executive Compensation"; (iii) each person known by us to beneficially own more than 5% of our common stock and (iv) all of our current executive officers and directors as a group.

Beneficial ownership is determined in accordance with the rules of the SEC and includes voting and investment power with respect to the securities. This table is based upon information supplied by officers, directors and principal stockholders and Schedules 13D and 13G filed with the SEC. Except as indicated by footnote, and subject to applicable community property laws, we believe the persons named in the table have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them.

Percentage of beneficial ownership is based on 72,504,772 shares of common stock outstanding as of February 28, 2021. The number of shares of common stock used to calculate the percentage ownership of each listed person includes the shares of common stock underlying options held by such persons that are exercisable, or restricted stock units which will vest, within 60 days following February 28, 2021. Unless otherwise indicated, the address for the persons and entities listed in the table below is c/o Regulus Therapeutics Inc., 10628 Science Center Drive, Suite 225, San Diego, CA 92121.

Beneficial Owner	Beneficial Ownership	
	Number of Shares	Percent of Total
Greater than 5% Stockholders		
Entities affiliated with RS Investments[1]	14,548,183	18.52%
One Bush Street, Suite 400 San Francisco, CA 94104		
Entities affiliated with Sarissa Capital Management LP[2]	12,166,942	14.69%
c/o Sarissa Capital Management LP 660 Steamboat Road Greenwich, CT 06830		
Entities affiliated with New Enterprise Associates, Inc.[3]	6,709,193	9.99%
1954 Greenspring Dr., Suite 600 Timonium Maryland 21093		
Entities affiliated with BVF Partners, L.P.[4]	6,760,484	9.99%
1 Sansome Street, 30th Floor San Francisco, California 94104		
Point72 Associates LLC[5]	5,627,013	7.51%
72 Cummings Point Road Stamford, Connecticut 06902		
Altium Growth Fund, LP[6]	4,557,581	5.91%
551 Fifth Avenue, FL 19 New York, New York 10176		
Entities affiliated with Asymmetry Capital[7]	4,220,258	5.68%
One Sansome Street, Suite 1810 San Francisco, CA 94104		
Named Executive Officers and Directors		
Christopher Aker[8]	265,112	*
David Baltimore, Ph.D.[9]	91,479	*
Cris Calsada[10]	174,583	*
Kathryn J. Collier[11]	93,294	*
Joseph P. Hagan[12]	1,188,211	1.64%
Jake R. Nunn[13]	65,875	*
Stelios Papadopoulos, Ph.D.[14]	4,717,418	6.51%
William H. Rastetter, Ph.D.[15]	775,285	1.07%
Hugh Rosen, M.D., Ph.D.[16]	83,592	*
Simos Simeonidis, Ph.D.[17]	65,875	*
Pascale Witz, MBA, MSc[18]	278,246	*
All current executive officers and directors as a group (12 persons)[19]	7,806,470	10.77%

* Less than one percent.

(1) Consists of an aggregate of 8,519,242 shares of common stock and 6,028,941 shares of common stock issuable upon the exercise of warrants to purchase common stock held collectively by USAA Science & Technology Fund and Victory RS Science and Technology Fund, a Series of Victory Portfolios (the “RS Funds”). RS Investments as the Investment Advisor to the RS Funds may be deemed to have the shared power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the shares of our common stock held by the RS Funds. Shares of common stock beneficially owned by the Victory Funds are owned individually and not jointly. By delegation from each Victory Fund and each Victory Fund’s respective Board of Trustees, Victory Capital has the power to dispose of the securities acting through Chris Clark, a member of its investment franchise, RS Investments Growth, and to vote the securities in accordance with its proxy voting policy through its proxy committee, which is composed of seven individuals.

(2) Consists of an aggregate of 1,851,851 shares of common stock, 6,083,471 shares of common stock issuable upon the exercise of warrants to purchase common stock and 4,231,620 shares of common stock issuable upon the conversion of

Class A-2 convertible preferred stock held collectively by Sarissa Capital Offshore Master Fund LP, or Sarissa Offshore, Sarissa Capital Catapult Fund LLC, or Sarissa Catapult, and Sarissa Capital Hawkeye Fund LP, or Sarissa Hawkeye, or, collectively, the Sarissa Funds. Sarissa Capital Management LP, or Sarissa Capital, as the Investment Advisor to the Sarissa Funds may be deemed to have the shared power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the shares of our common stock held by the Sarissa Funds. By virtue of his positions as the Chief Investment Officer of Sarissa Capital and as the managing member of Sarissa Capital's general partner and as controlling the ultimate general partner of each of the Sarissa Funds, Alexander J. Denner, Ph.D. may be deemed to have the shared power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the shares of our common stock by the Sarissa Funds. Each Sarissa Reporting Person disclaims beneficial ownership of all applicable shares except to the extent of their actual pecuniary interest therein.

(3) Consists of 6,451,057 shares of common stock and 258,136 shares of common stock issuable upon the exercise of warrants to purchase common stock, collectively, the GEO Shares, held by Growth Equity Opportunities Fund V, LLC, or GEO. New Enterprise Associates 16, L.P., or NEA 16, is the sole member of GEO, NEA Partners 16, L.P., or NEA Partners 16, is the sole general partner of NEA 16 and NEA 16 GP, LLC, or NEA 16 LLC, is the sole general partner of NEA Partners 16. Peter J. Barris, Forest Baskett, Ali Behbahani, Carmen Chang, Anthony A. Florence, Jr., Mohamad H. Makhzoumi, Joshua Makower, David M. Mott, Scott D. Sandell, Peter W. Sonsini and Paul Walker, or, collectively, the Managers, are the managers of NEA 16 LLC. The persons named herein are referred to individually herein as a NEA Reporting Person and collectively as the NEA Reporting Persons. GEO is the record owner of the GEO Shares. As the sole member of GEO, NEA 16 may be deemed to own beneficially the GEO Shares. As the general partner of NEA 16, NEA Partners 16 may be deemed to own beneficially the GEO Shares. As the sole general partner of NEA Partners 16, NEA 16 LLC may be deemed to own beneficially the GEO Shares. Each of the Managers of NEA 16 LLC may be deemed to own beneficially the GEO Shares. The number of shares beneficially owned by the NEA Reporting Persons in the aggregate is limited by beneficial ownership limitations applicable to the warrants and shares of Class A-1, Class A-2 and Class A-3 convertible preferred stock held by GEO, which limit the number of shares the NEA Reporting Persons can beneficially own to a maximum of 9.99% of our outstanding common stock. As a result of such limitations, the number of shares beneficially owned does not include up to an aggregate of 17,693,822 shares of common stock issuable upon the exercise of warrants and 2,567,000 shares of common stock issuable upon the conversion of our Class A-1 convertible preferred stock, 9,009,000 shares of common stock issuable upon the conversion of Class A-2 convertible preferred stock and 2,587,070 shares of common stock issuable upon the conversion of Class A-3 convertible preferred stock held by GEO. Each NEA Reporting Person disclaims beneficial ownership of all applicable shares except to the extent of their actual pecuniary interest therein.

(4) Consists of an aggregate of 5,988,932 shares of common stock and 771,552 shares of common stock issuable upon the exercise of warrants to purchase common stock held collectively by (i) Biotechnology Value Fund, LP, or BVF, (ii) Biotechnology Value Fund II, LP, or BVF II, (iii) Biotechnology Value Trading Fund OS, L.P., or BVFOS, and (v) MSI BVF SPV, L.L.C., or MSI, and, collectively, the BVF Investment Entities. BVF Partners L.P., or BVF Partners, is the general partner of BVF, BVF II and BVFOS and the investment advisor of MSI and may be deemed to beneficially own the shares held by the BVF Investment Entities. BVF, Inc., as the general partner of BVF Partners, may be deemed to beneficially own the shares beneficially owned by BVF Partners. Mark Lampert, as a director and officer of BVF Inc., may be deemed to beneficially own the shares beneficially owned by BVF, Inc. The number of shares beneficially owned by BVF Partners in the aggregate is limited by beneficial ownership limitations applicable to the exercise of warrants held by the BVF Investment Entities, which limit the number of shares BVF Partners can beneficially own after the exercise of warrants and conversion of shares of convertible preferred stock to a maximum of 9.99% of our outstanding common stock. As a result of such limitations, the number of shares beneficially owned does not include up to an aggregate of 10,659,455 shares of common stock issuable upon the exercise of warrants held by the BVF Investment Entities.

(5) Consists of an aggregate of 3,215,436 shares of common stock and 2,411,577 shares of common stock issuable upon the exercise of warrants to purchase common stock held by Point72 Associates, LLC, or Point72 Associates. Point72 Asset Management, L.P. maintains investment and voting power with respect to the securities held by certain investment funds it manages, including Point72 Associates. Point72 Capital Advisors, Inc. is the general partner of Point72 Asset Management, L.P. Mr. Steven A. Cohen controls each of Point72 Associates and Point72 Asset Management, L.P. and Point72 Capital Advisors, Inc and may be deemed to beneficially own the shares held of record by Point72 Associates. By reason of the provisions of Rule 13d-3 of the Exchange Act, each of Point72 Asset Management, L.P., Point72 Capital Advisors, Inc., and Mr. Cohen may be deemed to beneficially own the securities held of record by Point72 Associates reflected herein. Each of Point72 Asset Management, L.P., Point72 Capital Advisors, Inc., and Mr. Cohen disclaims beneficial ownership of any such securities.

(6) Consists of 4,557,581 shares of common stock issuable upon the exercise of warrants to purchase common stock held by Altium Growth Fund, LP, or Altium Growth. Altium Capital Management, LP is the investment adviser of, and may be deemed to beneficially own securities owned by, Altium Growth. Altium Growth GP, LLC is the general partner of, and may be deemed to beneficially own securities owned by, Altium Growth. Each of Altium Capital Management, LP and Altium Growth GP, LLC, or, together, Altium, shares voting and disposal power over the shares.

(7) Consists of an aggregate of 2,411,576 shares of common stock and 1,808,682 shares of common stock issuable upon the exercise of warrants to purchase common stock held collectively by Atom Master Fund LP, Asymmetry Global Healthcare Fund, L.P. Portland House Partners, Preclude Opportunity Fun and Asymmetry Global Healthcare (Master) Fund, Ltd., the Asymmetry Funds. Asymmetry Capital Management, LP, or Asymmetry Management, as the Sub-Advisor to Atom, Portland and Prelude, may be deemed to have the shared power to dispose or direct the disposition of the shares of our common stock held by Atom, Portland and Prelude and the shared power to vote or direct the vote of the shares held by Prelude. Craig Fischer, as General Counsel and Chief Compliance Officer of Atom, has power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the shares of our common stock held by Atom. Tim Collins, as President of Portland, has power to vote or direct the vote of (and the shared power to dispose or direct the disposition of) the shares of our common stock held by Portland. Chris Zellner, as COO of Asymmetry Management, Asymmetry Global and Asymmetry Master, has shared power to dispose or direct the disposition of the shares held by the Asymmetry Funds and shared power to vote or direct the vote of the shares held by Asymmetry Global, Prelude and Asymmetry Master.
(8) Consists of 41,207 shares of common stock held by Mr. Aker and 221,498 shares that Mr. Aker has the right to acquire from us within 60 days of February 28, 2021 pursuant to the exercise of stock options and 2,407 shares that Mr. Aker will acquire upon the vesting of RSUs.
(9) Consists of 25,604 shares of common stock held by Dr. Baltimore and 65,875 shares that Dr. Baltimore has the right to acquire from us within 60 days of February 28, 2021 pursuant to the exercise of stock options.
(10) Consists of 174,583 shares that Ms. Calsada has the right to acquire from us within 60 days of February 28, 2021 pursuant to the exercise of stock options.
(11) Consists of 27,419 shares of common stock held by Ms. Collier and 65,875 shares that Ms. Collier has the right to acquire from us within 60 days of February 28, 2021 pursuant to the exercise of stock options.
(12) Consists of (i) 233,454 shares of common stock held by Joseph P. Hagan and 728,329 shares that Mr. Hagan has the right to acquire from us within 60 days of February 28, 2021 pursuant to the exercise of stock options and 11,174 shares that Mr. Hagan will acquire upon the vesting of RSUs, and (ii) 138,804 shares of common stock issuable upon the exercise of warrants and 75,850 shares of common stock upon the conversion of Class A-2 preferred stock to purchase common stock held by PENSCO Trust Company LLC Custodian FBO Joseph Hagan IRA, or PENSCO. Mr. Hagan is the economic beneficiary and may be deemed to be the beneficial owner of the shares held by PENSCO.
(13) Consists of 65,875 shares of common stock that Mr. Nunn has the right to acquire from us within 60 days of February 28, 2021 pursuant to the exercise of stock options.
(14) Consists of 2,839,707 shares of common stock and 1,811,836 shares of common stock issuable upon the exercise of warrants to purchase common stock and 65,875 shares that Dr. Papadopoulos has the right to acquire from us within 60 days of February 28, 2021 pursuant to the exercise of stock options.
(15) Consists of 390,581 shares of common stock and 318,829 shares of common stock issuable upon the exercise of warrants to purchase common stock, and 65,875 shares that Dr. Rastetter has the right to acquire from us within 60 days of February 28, 2021 pursuant to the exercise of stock options held by The Rastetter Family Trust, or the Rastetter Trust. Dr. Rastetter is trustee of the Rastetter Trust and may be deemed to be the beneficial owner of the shares held by the Rastetter trust.
(16) Consists of 17,717 shares of common stock held by Dr. Rosen and 65,875 shares that Dr. Rosen has the right to acquire from us within 60 days of February 28, 2021 pursuant to the exercise of stock options.
(17) Consists of 65,875 shares of common stock that Dr. Simeonidis has the right to acquire from us within 60 days of February 28, 2021 pursuant to the exercise of stock options.
(18) Consists of 47,341 shares of common stock, 97,330 shares of common stock issuable upon the exercise of warrants to purchase common stock, 67,700 shares of common stock upon the conversion of Class A-2 preferred stock held by Pascale Witz and 65,875 shares of common stock that Ms. Witz has the right to acquire from us within 60 days of February 28, 2021 pursuant to the exercise of stock options.
(19) Includes all shares described in notes (8) through (18) above. Also, represents 7,500 shares of common stock that one other executive officer has the right to acquire from us within 60 days of February 28, 2021 pursuant to the exercise of stock options.

Item 13. Certain Relationships and Related Transactions and Director Independence

TRANSACTIONS WITH RELATED PERSONS

We have adopted a written related-person transactions policy that sets forth our policies and procedures regarding the identification, review, consideration, approval and oversight of “related-person transactions.” A “related-person transaction” is a past, present or future transaction, arrangement or relationship (or any series of similar transactions, arrangements or relationships) in which we and any “related person” are participants involving an amount that exceeds the lesser of $120,000 or 1% of the average of our total assets at year-end of the last two completed fiscal years.

Transactions involving compensation for services provided to us by an employee, consultant or director are not considered related-person transactions under this policy. A "related person," as determined since the beginning of our last fiscal year, is any executive officer, director or a holder of more than five percent of our common stock, including any of their immediate family members and any entity owned or controlled by such persons.

The policy imposes an affirmative duty upon each director and executive officer to identify any transaction involving them, their affiliates or immediate family members that may be considered a related party transaction before such person engages in the transaction. Under the policy, where a transaction has been identified as a related-person transaction, management must present information regarding the proposed related-person transaction to our audit committee (or, where review by our audit committee would be inappropriate, to another independent body of our board of directors) for review. The presentation must include a description of, among other things, the material facts, the direct and indirect interests of the related persons, the benefits of the transaction to us and whether any alternative transactions are available. In considering related-person transactions, our audit committee or other independent body of our board of directors takes into account the relevant available facts and circumstances including, but not limited to:

- the risks, costs and benefits to us of the transaction;
- the impact on a director's independence in the event the related person is a director, immediate family member of a director or an entity with which a director is affiliated;
- the terms of the transaction;
- the availability of other sources for comparable services or products; and
- the terms available to or from, as the case may be, unrelated third parties or to or from our employees generally.

In the event a director has an interest in the proposed transaction, the director must recuse himself or herself from the deliberations and approval. Our policy requires that, in reviewing a related party transaction, our audit committee must consider, in light of known circumstances, and determine in the good faith exercise of its discretion whether the transaction is in, or is not inconsistent with, the best interests of us and our stockholders.

We describe below transactions and series of similar transactions, since January 1, 2019 with respect to which we were a party, will be a party, or otherwise benefited, in which:

- the amounts involved exceeded or will exceed the lesser of $120,000 or 1% of the average of our total assets at year end of the last two completed fiscal years; and
- a director, executive officer, holder of more than 5% of our common stock or any member of their immediate family had or will have a direct or indirect material interest.

We also describe below certain other transactions with our directors, executive officers and stockholders. We believe that the terms obtained or consideration that we paid or received, as applicable, in connection with the transactions described below were comparable to terms available or the amounts that would be paid or received, as applicable, in arm's-length transactions.

Private Placement Financing Transaction

On May 3, 2019, we entered into a Securities Purchase Agreement (the "Purchase Agreement") with certain institutional and other accredited investors (the "Purchasers"), pursuant to which we agreed to sell and issue shares of common stock, shares of our newly designated non-voting convertible preferred stock, and warrants to purchase common stock, in up to two closings (collectively, the "Private Placement").

In May 2019, we completed the initial closing of the Private Placement (the "Initial Closing") pursuant to which we sold and issued (i) 9,730,534 shares of common stock and accompanying warrants to purchase up to an aggregate of 9,730,534 shares of common stock at a combined purchase price of $1.205 per share, and (ii) 415,898 shares of non-voting Class A-1 convertible preferred stock, in lieu of shares of common stock, at a price of $10.80 per share, and accompanying warrants to purchase an aggregate of 4,158,980 shares of common stock at a price of $0.125 for each share of common stock underlying such warrants. Each share of non-voting Class A-1 convertible preferred stock is convertible into 10 shares of common stock, subject to certain beneficial ownership conversion limitations. The warrants are exercisable for a period of five years following the date of issuance and have an exercise price of $1.08 per share, subject to proportional adjustments in the event of stock splits or combinations or similar events. In December 2019, following our announcement of our plan to recommence our Phase 1 MAD study of RGLS4326 in the first quarter of 2020, we completed a second and final closing under the Purchase Agreement (the "Milestone Closing"), pursuant to which we sold and issued (i) 3,288,390 shares of non-voting Class A-2 convertible preferred stock, in lieu of shares of common stock, at a price of $6.66 per share, and accompanying warrants to purchase an aggregate of 32,883,900 shares of common stock at a price of $0.125 for each share of common stock underlying

such warrants. Each share of the non-voting Class A-2 convertible preferred stock is convertible into 10 shares of common stock, subject to certain beneficial ownership conversion limitations. The warrants are exercisable for a period of five years following the date of issuance and have an exercise price of $0.666 per share, pursuant to proportional adjustments in the event of stock splits or combinations or similar events.

The participants in the Private Placement included the following executive officers, directors and holders of more than five percent of our common stock or entities affiliated with them. The following table sets forth the aggregate number of shares of common stock, Class A-1 convertible preferred stock and warrants to purchase common stock issued to these related parties in the Initial Closing and Class A-2 convertible preferred stock and warrants issued to these related parties in the Milestone Closing of the Private Placement. The aggregate shares and warrants set forth below reflect the number issued at the time of the Initial Closing and the Milestone Closing and do not reflect any subsequent conversions:

Name of Related Person	Common Stock Issued in the Initial Closing	Warrants Issued in the Initial Closing	Class A-1 Convertible Preferred Stock Issued in the Initial Closing	Class A-2 Convertible Preferred Stock Issued in the Milestone Closing	Warrants Issued in the Milestone Closing	Aggregate Purchase Price of Common Stock, Warrants and Preferred Stock Purchased in the Private Placement
Entities affiliated with New Enterprise Associates, Inc.	1,136,704	3,703,704	256,700	900,900	9,009,000	$ 11,589,087.72
Entities affiliated with BVF Partners, L.P.	1,000,592	2,592,572	159,198	630,628	6,306,280	$ 8,112,356.33
Entities affiliated with Sarissa Capital Management LP [1]	1,851,851	1,851,851	—	423,162	4,231,620	$ 5,578,701.75
Altium Growth Fund, LP	1,327,801	1,327,801	—	322,978	3,229,780	$ 4,154,759.79
Entities affiliated with EcoR1 Capital, LLC	1,111,110	1,111,110	—	253,897	2,538,970	$ 3,347,220.08
Samsara BioCapital, L.P.	1,111,111	1,111,111	—	253,897	2,538,970	$ 3,347,221.29
Stelios Papadopoulos, Ph.D. *Chairman of the Board*	370,370	370,370	—	84,632	846,320	$ 1,115,739.63
Joseph P. Hagan[2] *President, Chief Executive Officer and Directo*	33,194	33,194	—	7,585	75,850	$ 99,996.93
William H. Rastetter[2] *Director*	92,889	92,889	—	22,594	225,940	$ 290,653.39
Pascale Witz *Director*	29,630	29,630	—	6,770	67,700	$ 89,259.17

(1) Dr. Simeonidis, a director of the Company, is a partner at Sarissa Capital Management.

(2) Securities purchased or to be purchased through an affiliated investment entity.

On December 1, 2020, we entered into a Securities Purchase Agreement (the “Purchase Agreement”) with certain institutional and other accredited investors (the “Purchasers”), pursuant to which we agreed to sell and issue shares of common stock, shares of our newly designated non-voting convertible preferred stock, and warrants to purchase common stock, in up to two closings (collectively, the “Private Placement”).

In December 2020, we completed the initial closing of the Private Placement (the “2020 Closing”) pursuant to which we sold and issued (i) 24,341,607 shares of common stock and accompanying warrants to purchase up to an aggregate of 18,256,204 shares of common stock at a combined purchase price of $0.7464 per share (the combined purchase price for officers and directors of the Company was $0.7551), and (ii) 272,970 shares of non-voting Class A-3 convertible preferred stock, in lieu of shares of common stock, at a price of $6.22 per share, and accompanying warrants to purchase an aggregate of 2,047,276 shares of common stock at a price of $0.125 for each share of common stock underlying such warrants. Each share of non-voting Class A-3 convertible preferred stock is convertible into 10 shares of common stock, subject to certain beneficial ownership conversion limitations. The warrants are exercisable for a period of five years following the date of issuance and have an exercise price of $0.7464 per share, subject to proportional adjustments in the event of stock splits or combinations or similar events.

The participants in the Private Placement included the following executive officers, directors and holders of more than five percent of our common stock or entities affiliated with them. The following table sets forth the aggregate number of shares of common stock, Class A-3 convertible preferred stock and warrants to purchase common stock issued to these related parties

in the 2020 Closing. The aggregate shares and warrants set forth below reflect the number issued at the time of the 2020 Closing and do not reflect any subsequent conversions:

Name of Related Person	Common Stock Issued in the 2020 Closing	Warrants Issued in the 2020 Closing	Class A-3 Convertible Preferred Stock Issued in the Initial Closing	Aggregate Purchase Price of Common Stock, Warrants and Preferred Stock Purchased in the Private Placement
Entities affiliated with New Enterprise Associates, Inc.	4,398,602	5,239,254	258,707	$ 4,999,994.73
Entities affiliated with BVF Partners, L.P.	3,233,577	2,532,155	14,263	$ 2,416,520.13
Stelios Papadopoulos, Ph.D. *Chairman of the Board*	793,528	595,146	—	$ 574,395.24
Joseph P. Hagan[(1)] *President, Chief Executive Officer and Director*	39,680	29,760	—	$ 28,722.37

(1) Securities purchased or to be purchased through an affiliated investment entity.

Alliance and Collaboration Agreements

Sanofi

In February 2014, we amended and restated our 2012 amended and restated license and collaboration agreement with Sanofi, a greater than 5% stockholder of the Company, extending our strategic alliance with Sanofi. Aventisub LLC (formerly Aventis Holdings Inc.) concurrently made a $10.0 million investment in our common stock at a purchase price of $7.67 per share, representing the average of the daily volume weighted average price per share of our common stock during the 30 trading days ending on the date immediately preceding the date of the investment. In November 2018, we entered into an amendment to the 2014 Sanofi Amendment with Sanofi to modify the parties' rights and obligations with respect to our miR-21 programs, including our RG-012 program (the "2018 Sanofi Amendment"). Under the terms of the 2018 Sanofi Amendment, we have granted Sanofi a worldwide, royalty-free, fee-bearing, exclusive license, with the right to grant sublicenses, under our know-how and patents to develop and commercialize miR-21 compounds and products for all indications, including Alport Syndrome. Sanofi will control and will assume all responsibilities and obligations for developing and commercializing each of our miR-21 programs, including our obligations regarding the administration and expense of clinical trials and all other costs, including in-license royalties and other in-license payments, related to our miR-21 programs. Under the terms of the 2018 Sanofi Amendment, we have assigned to Sanofi certain agreements and all materials directed to miR-21 or to any miR-21 compound or product and are required to provide reasonable technical assistance to Sanofi for a period of 24 months after the date of the 2018 Sanofi Amendment. Under the terms of the 2018 Sanofi Amendment, we are eligible to receive approximately $6.8 million in upfront payments for the license and for miR-21 program-related materials (collectively, the "Upfront Amendment Payments"). We are also eligible to receive up to $40.0 million in development milestone payments. In addition, Sanofi has agreed to reimburse us for certain out-of-pocket transition activities and assume our upstream license royalty obligations. We and Sanofi also agreed to a general release of claims against each other for any claims that arose at any time prior to the date of the 2018 Sanofi Amendment, or that thereafter could arise based on anything that occurred prior to the date of the 2018 Sanofi Amendment. In November 2018, we received $2.5 million of the approximately $6.8 million in Upfront Amendment Payments under the 2018 Sanofi Amendment. In March 2019, we received $1.8 million in payment of materials purchased by Sanofi from us related to the RG-012 program. We have received approximately $16.8 million in upfront payments, payment for program-related materials and interim enrollment milestones. We are also eligible to receive a $30.0 million development milestone payment.

In September 2014, we entered into an agreement with Sanofi-Aventis Deutschland GmbH ("Sanofi Deutschland"), a contract manufacturing subsidiary of Sanofi, for the manufacture of certain drug substance requirements and other services to support our preclinical and clinical activities associated with the RG-012 program. Pursuant to this agreement, we may engage Sanofi Deutschland from time-to-time to manufacture RG-012 drug product on our behalf. To date, we have engaged Sanofi Deutschland to manufacture multiple cGMP batches of RG-012 and to perform stability testing and related activities at a cost of $1,831,992. These activities were ongoing during 2018 and in 2019 we paid Sanofi $45,000 for activities completed in 2018. Pursuant to the assignment of the RG-012 program to Sanofi, we do not expect to incur any further material charges related to Sanofi Deutschland's activities.

Indemnification Agreements

We have entered into separate indemnification agreements with our directors and executive officers, in addition to the indemnification provided for in our bylaws. These agreements, among other things, require us to indemnify our directors and

executive officers for certain expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by a director or executive officer in any action or proceeding arising out of his or her services as one of our directors or executive officers or any other company or enterprise to which the person provides services at our request. We believe that these indemnification agreements, together with the provisions in our bylaws, are necessary to attract and retain qualified persons as directors and officers.

INDEPENDENCE OF THE BOARD OF DIRECTORS

As required under the Nasdaq Stock Market ("Nasdaq") listing standards, a majority of the members of a listed company's Board of Directors must qualify as "independent," as affirmatively determined by the Board of Directors. The Board consults with the Company's counsel to ensure that the Board's determinations are consistent with relevant securities and other laws and regulations regarding the definition of "independent," including those set forth in pertinent listing standards of Nasdaq, as in effect from time to time.

Consistent with these considerations, after review of all relevant identified transactions or relationships between each director, or any of his family members, and the Company, its senior management and its independent auditors, the Board has affirmatively determined that the following nine directors are independent directors within the meaning of the applicable Nasdaq listing standards: Dr. Baltimore, Ms. Collier, Dr. Huang, Mr. Nunn, Dr. Papadopoulos, Dr. Rastetter, Dr. Rosen, Dr. Simeonidis and Ms. Witz. In making this determination, the Board found that none of these directors or nominees for director had a material or other disqualifying relationship with the Company.

Item 14. Principal Accounting Fees and Services

AUDIT AND ALL OTHER FEES

The following table represents aggregate fees incurred by the Company for the fiscal years ended December 31, 2020 and December 31, 2019, by Ernst & Young LLP ("Ernst & Young"), the Company's principal accountant. All fees described below were pre-approved by the Audit Committee.

	Fiscal Year Ended	
	2020	2019
	(in thousands)	
Audit Fees[(1)]	$ 305	$ 359
Audit-related Fees	—	—
Tax Fees	—	—
All Other Fees	104	—
Total Fees	$ 409	$ 359

(1) Audit fees consist of fees incurred for professional services by Ernst & Young for audit and quarterly review of our financial statements and review of our registration statements on Form S-3 and Form S-8, and related services that are normally provided in connection with statutory and regulatory filings or engagements.

In connection with the audit of each of the 2020 and 2019 financial statements, the Company entered into engagement agreements with Ernst & Young, which sets forth the terms by which Ernst & Young will perform audit services for the Company. Such agreements are subject to alternative dispute resolution procedures.

PRE-APPROVAL POLICIES AND PROCEDURES

The Audit Committee must pre-approve the audit and non-audit services rendered by the Company's independent registered public accounting firm.

PART IV

Item 15. Exhibits, Financial Statement Schedules

Financial Statements. We have filed the following financial statements with this Annual Report:

Financial Statement Schedules. All schedules are omitted because they are not applicable or the required information is shown in the financial statements or notes thereto.

Exhibits.

Exhibit Number	Description
3.1	Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-35670), filed with the SEC on August 3, 2016.
3.2	Certificate of Amendment of Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-35670), filed with the SEC on October 2, 2018).
3.3	Certificate of Designation of Preferences, Rights and Limitations of Class A-1 Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-35670), filed with the SEC on May 9, 2019).
3.4	Certificate of Designation of Preferences, Rights and Limitations of Class A-2 Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-35670), filed with the SEC on December 26, 2019).
3.5	Certificate of Designation of Preferences, Rights and Limitations of Class A-3 Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the Registrants' Current Report on Form 8-K (File No. 001-35670) filed with the SEC on December 4, 2020).
3.6	Certificate of Amendment to the Certificate of Designation of Preferences, Rights and Limitations of Class A-1 Convertible Preferred Stock (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K (File No. 001-35670), filed with the SEC on December 4, 2020).
3. 7	Certificate of Amendment to the Certificate of Designation of Preferences, Rights and Limitations of Class A-2 Convertible Preferred Stock (incorporated by reference to Exhibit 3.3 to the Registrant's Current Report on Form 8-K (File No. 001-35670), filed with the SEC on December 4, 2020).
3.8	Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-35670), filed with the SEC on June 8, 2016).
4.1	Reference is made to Exhibits 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7 and 3.8.
4.2	Form of Common Stock Certificate of the Registrant (incorporated by reference to Exhibit 4.2 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-35670), filed with the SEC on November 9, 2018).
4.3	Description of Common Stock (incorporated by reference to Exhibit 4.3 to the Registrant's Annual Report on From 10-K (File No. 001-35670), filed with the SEC on) March 12, 2020).
4.4	Form of Common Stock Purchase Warrant (incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K (File No. 001-35670), filed with the SEC on May 9, 2019).

4.5	Form of Common Stock Purchase Warrant (incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K (File No. 001-35670), filed with the SEC on December 4, 2020).
10.1*	Form of Indemnity Agreement between the Registrant and its directors and officers (incorporated by reference to Exhibit 10.1 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-183384), originally filed with the SEC on August 17, 2012).
10.2*	Regulus Therapeutics Inc. 2009 Equity Incentive Plan, as amended, and Form of Stock Option Grant Notice, Option Agreement and Form of Notice of Exercise (incorporated by reference to Exhibit 10.2 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-183384), originally filed with the SEC on August 17, 2012).
10.3*	2012 Equity Incentive Plan and Form of Stock Option Agreement and Form of Stock Option Grant Notice thereunder (incorporated by reference to Exhibit 10.3 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-183384), originally filed with the SEC on August 17, 2012).
10.4*	Non-Employee Director Compensation Policy, as amended (incorporated by reference to Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-35670), filed with the SEC on November 12, 2019).
10.5*	2012 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.5 to the Registrant's Registration Statement on Form S-1, as amended, originally filed with the SEC on August 17, 2012).
10.6*	Regulus Therapeutics Inc. Inducement Plan and Form of Stock Option Grant Notice, Form of Stock Option Agreement and Notice of Exercise thereunder (incorporated by reference to Exhibit 99.1 to the Company's Registration Statement on Form S-8 (File No. 333-206511), filed with the SEC on August 21, 2015).
10.7*	Regulus Therapeutics Inc. 2019 Equity Incentive Plan (incorporated by reference to Exhibit 99.1 to the Registrant's Current Report on Form 8-K (File No. 001-35670, filed with the SEC on August 6, 2019).
10.8*	Form of Stock Option Grant Notice and Option Agreement under the Regulus Therapeutics Inc. 2019 Equity Incentive Plan (incorporated by reference to Exhibit 99.2 to the Registrant's Registration Statement on Form S-8 (Registration No. 333-233414, filed with the SEC on August 22, 2019).
10.9*	Form of Restricted Stock Unit Grant Notice and Restricted Stock Unit Agreement under the Regulus Therapeutics Inc. 2019 Equity Incentive Plan (incorporated by reference to Exhibit 99.3 to the Registrant's Registration Statement on Form S-8 (Registration No. 333-233414, filed with the SEC on August 22, 2019).
10.10*	Employment Agreement, effective January 1, 2016, by and between the Registrant and Joseph P. Hagan (incorporated by reference to Exhibit 10.10 to the Registrant's Annual Report on Form 10-K (File No. 001-35670), filed with the SEC on February 23, 2016).
10.11*	Joseph P. Hagan, Base Salary and Target Bonus Increase, effective May 4, 2017 (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-35670), filed with the SEC on August 2, 2017).
10.12*	Joseph P. Hagan, Yearly Discretionary Base Salary Increase, effective January 1, 2018 (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-35670), filed with the SEC on May 10, 2018).
10.13*	Joseph P. Hagan, Yearly Discretionary Base Salary Increase, effective January 1, 2019.
10.14*	Joseph P. Hagan, Yearly Discretionary Base Salary Increase, effective January 1, 2020.
10.15*	Employment Agreement between the Registrant and Christopher Aker, dated July 24, 2018 (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-35670), filed with the SEC on May 10, 2019).
10.16*	Offer Letter Agreement, dated July 29, 2019, by and between the Registrant and Cris Calsada (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-35670, filed with the SEC on July 30, 2019).

10.17*	Employment Agreement between the Registrant and Cris Calsada, dated August 30, 2019 (incorporated by reference to Exhibit 10.7 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-35670), filed with the SEC on November 12, 2019).
10.18*	Employment Agreement between the Registrant and Denis Drygin, dated August 3, 2020.
10.19†	Amended and Restated License and Collaboration Agreement among the Registrant, Alnylam Pharmaceuticals, Inc. and Ionis Pharmaceuticals, Inc. (formerly known as Isis Pharmaceuticals, Inc.), dated January 1, 2009 (incorporated by reference to Exhibit 10.17 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-183384), originally filed with the SEC on August 17, 2012).
10.20†	Amendment Number One to the Amended and Restated License and Collaboration Agreement among the Registrant, Alnylam Pharmaceuticals, Inc. and Ionis Pharmaceuticals, Inc. (formerly known as Isis Pharmaceuticals, Inc.), dated June 10, 2010 (incorporated by reference to Exhibit 10.18 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-183384), originally filed with the SEC on August 17, 2012).
10.21†	Amendment Number Two to the Amended and Restated License and Collaboration Agreement among the Registrant, Alnylam Pharmaceuticals, Inc. and Ionis Pharmaceuticals, Inc. (formerly known as Isis Pharmaceuticals, Inc.), dated October 25, 2011 (incorporated by reference to Exhibit 10.19 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-183384), originally filed with the SEC on August 17, 2012).
10.22†	Amendment Number Three to the Amended and Restated License and Collaboration Agreement among the Company, Alnylam Pharmaceuticals, Inc. and Isis Pharmaceuticals, Inc., dated August 2, 2013 (incorporated by reference to Exhibit 99.1 to the Registrant's Current Report on Form 8-K (File No. 001-35670), filed with the SEC on August 7, 2013).
10.23	Assignment Agreement between the Registrant and Ionis Pharmaceuticals, Inc. (formerly known as Isis Pharmaceuticals, Inc.), dated July 13, 2009 (incorporated by reference to Exhibit 10.26 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-183384), originally filed with the SEC on August 17, 2012).
10.24†	Non-Exclusive Technology Alliance and Option Agreement between the Registrant and Sanofi, dated June 21, 2010 (incorporated by reference to Exhibit 10.32 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-183384), originally filed with the SEC on August 17, 2012).
10.25†	Second Amended and Restated Collaboration and License Agreement dated February 4, 2014 between the Registrant and Sanofi (incorporated by reference to Exhibit 10.52 to the Registrant's Annual Report on Form 10-K (File No. 001-35670), filed with the SEC on February 28, 2014).
10.26†	First Amendment to Second Amended and Restated Collaboration and License Agreement, dated November 5, 2018, by and between the Registrant and Sanofi (incorporated by reference to Exhibit 10.38 to the Registrant's Annual Report on Form 10-K (File No. 001-35670), filed with the SEC on March 18, 2019).
10.27††	Second Amendment to Second Amended and Restated Collaboration and License Agreement, dated August 25, 2020, by and among the Registrant and Sanofi (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-35670), filed with the SEC on November 5, 2020).
10.28	Loan and Security Agreement, dated June 17, 2016, by and between the Registrant and Oxford Finance LLC (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-35670), filed with the SEC on August 3, 2016).
10.29	First Amendment to Loan and Security Agreement, dated October 4, 2017, by and between the Registrant and Oxford Finance LLC. (incorporated by reference to Exhibit 10.31 to the Registrant's Annual Report on Form 10-K (File No. 001-35670), filed with the SEC on March 8, 2018).
10.30††	Second Amendment to Loan and Security Agreement, dated March 6, 2018, by and between the Registrant and Oxford Finance LLC
10.31†	Third Amendment to Loan and Security Agreement, dated August 6, 2018, by and between the Registrant and Oxford Finance LLC (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-35670), filed with the SEC on November 9, 2018).

10.32	Fourth Amendment to Loan and Security Agreement, dated November 5, 2018, by and between the Registrant and Oxford Finance LLC (incorporated by reference to Exhibit 10.37 to the Registrant's Annual Report on Form 10-K (File No. 001-35670), filed with the SEC on March 18, 2019).
10.33	Fifth Amendment to Loan and Security Agreement, dated January 31, 2019, by and between the Registrant and Oxford Finance LLC (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-35670), filed with the SEC on February 1, 2019).
10.34	Sixth Amendment to Loan and Security Agreement, dated March 7, 2019, by and between the Registrant and Oxford Finance LLC (incorporated by reference to Exhibit 10.44 to the Registrant's Annual Report on Form 10-K (File No. 001-35670), filed with the SEC on March 18, 2019).
10.35	Seventh Amendment to Loan and Security Agreement, dated April 9, 2019, by and between the Registrant and Oxford Finance LLC (incorporated by reference to Exhibit 10.7 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-35670), filed with the SEC on May 10, 2019).
10.36	Eighth Amendment to Loan and Security Agreement, dated May 3, 2019, by and between the Registrant and Oxford Finance LLC (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K (File No. 001-35670), filed with the SEC on May 9, 2019).
10.37	Ninth Amendment to Loan and Security Agreement, dated May 1, 2020, by and among the Registrant and Oxford Finance, LLC (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-35670), filed with the SEC on May 14, 2020).
10.38	Tenth Amendment to Loan and Security Agreement, dated August 25, 2020, by and among the Registrant and Oxford Finance, LLC (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-35670), filed with the SEC on November 5, 2020).
10.39	Lease Agreement, dated February 25, 2019, by and between the Registrant and ARE-SD Region No. 44 LLC. (incorporated by reference to Exhibit 10.41 to the Registrant's Annual Report on Form 10-K (File No. 001-35670), filed with the SEC on March 18, 2019).
10.40	Agreement, dated February 19, 2019, by and between the Registrant and Nitto Biopharma, Inc. (incorporated by reference to Exhibit 10.42 to the Registrant's Annual Report on Form 10-K (File No. 001-35670), filed with the SEC on March 18, 2019).
10.41	Second Amendment to Lease Agreement, dated February 25, 2019, by and between the Registrant and ARE-SD Region No. 44 LLC Agreement (incorporated by reference to Exhibit 10.43 to the Registrant's Annual Report on Form 10-K (File No. 001-35670), filed with the SEC on March 18, 2019).
10.42	Lease Agreement, dated June 19, 2019, by and between the Registrant and ARE-SD Region No. 44 LLC (incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-35670), filed with the SEC on August 8, 2019).
10.43	First Amendment to Lease, dated June 19, 2019, by and between the Registrant and ARE-SD Region No. 44 LLC (incorporated by reference to Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-35670), filed with the SEC on August 8, 2019).
10.44	Lease Agreement, dated February 11, 2021, by and between the Registrant and ARE-SD Region No. 44 LLC.
10.45	Assignment and Assumption of Lease, dated February 11, 2021, by and between the Registrant and Turning Point Therapeutics, Inc.
10.46	Common Stock Sales Agreement, dated December 12, 2018, by and between the Registrant and H.C. Wainwright & Co., LLC (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-35670), filed with the SEC on December 12, 2018).
10.47	Securities Purchase Agreement, dated May 3, 2019, by and among the Registrant and the Purchasers listed on Exhibit A thereto (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-35670), filed with the SEC on May 9, 2019).
10.48	Securities Purchase Agreement, dated December 1, 2020, by and among the Registrant and the Purchasers listed on Exhibit A thereto (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-35670) filed with the SEC on December 4, 2020).

23.1	Consent of Independent Registered Public Accounting Firm.
24.1	Power of Attorney. Reference is made to the signature page hereto.
31.1	Certification of the Principal Executive Officer pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934.
31.2	Certification of the Principal Financial Officer pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934.
32.1**	Certification of the Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
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 Exhibit 101. INS)

† We have received confidential treatment for certain portions of this agreement, which have been omitted and filed separately with the SEC pursuant to Rule 406 under the Securities Act of 1933, as amended, or Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

†† Certain portions of this exhibit (indicated by "[***]") have been omitted as the Registrant has determined (i) the omitted information is not material and (ii) the omitted information would likely cause harm to the Registrant if publicly disclosed.

* Indicates management contract or compensatory plan.

** This certification is being furnished solely to accompany this annual report pursuant to 18 U.S.C. Section 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934 and is not to be incorporated by reference into any filing of the Registrant, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements 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.

Regulus Therapeutics Inc.

Date: March 9, 2021

By: /s/ Joseph P. Hagan
Joseph P. Hagan
President and Chief Executive Officer
(Principal Executive Officer)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Joseph P. Hagan and Cris Calsada as his or her true and lawful attorneys-in-fact, and each of them, with full power of substitution, for him or her in any and all capacities, to sign any amendments to this Annual Report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact, and either of them, or his or her or their substitute or substitutes may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report on Form 10-K has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Joseph P. Hagan Joseph P. Hagan	President & Chief Executive Officer and Director (Principal Executive Officer)	March 9, 2021
/s/ Cris Calsada Cris Calsada	Chief Financial Officer (Principal Financial Officer)	March 9, 2021
/s/ Daniel J. Penksa Daniel J. Penksa	Controller (Principal Accounting Officer)	March 9, 2021
/s/ Stelios Papadopoulos Stelios Papadopoulos, Ph.D.	Chairman of the Board of Directors	March 9, 2021
/s/ David Baltimore David Baltimore, Ph.D.	Director	March 9, 2021
/s/ Kathryn Collier Kathryn Collier	Director	March 9, 2021
/s/ Alice Huang Alice Huang, Ph.D.	Director	March 9, 2021
/s/ Jake R. Nunn Jake R. Nunn	Director	March 9, 2021
/s/ William H. Rastetter William H. Rastetter, Ph.D.	Director	March 9, 2021
/s/ Hugh Rosen Hugh Rosen, M.D., Ph.D.	Director	March 9, 2021
/s/ Simos Simeonidis Simos Simeonidis, Ph.D.	Director	March 9, 2021
/s/ Pascale Witz Pascale Witz	Director	March 9, 2021

Exhibit 10.13

Joseph P. Hagan Yearly Discretionary Base Salary Increase

The Board of Directors (the "Board") of Regulus Therapeutics Inc., upon the recommendation of the Compensation Committee of the Board, approved the increase of Mr. Hagan's annual base salary to $535,600, effective January 1, 2019.

Exhibit 10.14

Joseph P. Hagan Yearly Discretionary Base Salary Increase

The Board of Directors (the "Board") of Regulus Therapeutics Inc., upon the recommendation of the Compensation Committee of the Board, approved the increase of Mr. Hagan's annual base salary to $551,500, effective January 1, 2020.

Exhibit 10.18

EMPLOYMENT AGREEMENT

This **EMPLOYMENT AGREEMENT** (the **"*Agreement*"**) is made and entered into effective as of August 3, 2020 (the **"*Effective Date*"**), by and between **REGULUS THERAPEUTICS INC.**, a Delaware corporation (the **"*Company*"**), and **DENIS DRYGIN, PH.D.** (the **"*Executive*"**). The Company and the Executive are hereinafter collectively referred to as the **"*Parties*"**, and individually referred to as a **"*Party*"**.

RECITALS

WHEREAS, the Company desires to employ Executive to provide personal services to the Company, and wishes to provide Executive with certain compensation and benefits in return for such services, and Executive wishes to be so employed and to receive such benefits; and

WHEREAS, the Company and Executive wish to enter into this Agreement to define their mutual rights and duties with respect to Executive's compensation and benefits.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, and for other good and valuable consideration, the Parties, intending to be legally bound, agree as follows:

AGREEMENT

1. EMPLOYMENT.

1.1 Term. The term of this Agreement shall begin on the Effective Date, and shall continue until terminated in accordance with Section 5 herein.

1.2 Title. The Executive shall serve in the role of Chief Scientific Officer of the Company ("***CSO***") and shall serve in such other capacity or capacities as the Board of Directors of the Company (the "***Board***") may from time to time prescribe, but only as consistent with the customary duties of a Chief Scientific Officer.

1.3 Duties. The Executive shall report to the Chief Executive Officer and shall do and perform all reasonable services, acts or things necessary or advisable to manage and conduct the business of the Company and which are normally associated with the position of CSO, consistent with the bylaws of the Company and as required by the Chief Executive Officer.

1.4 Location. The Executive shall perform services pursuant to this Agreement at the Company's offices located in San Diego, California, or at any other place at which the Company maintains an office; provided, however, that the Company may from time to time require the Executive to travel temporarily to other locations in connection with the Company's business.

2. LOYAL AND CONSCIENTIOUS PERFORMANCE.

2.1 Loyalty. During the Executive's employment by the Company the Executive shall devote the Executive's full business energies, interest, abilities and productive time to the proper and efficient performance of the Executive's duties under this Agreement.

2.2 Non-Company Business. While employed by the Company, Executive shall not, without the Company's prior written consent, (i) render to others, services of any kind for compensation, or engage in any other business activity that would materially interfere with the performance of Executive's duties under this Agreement, or (ii) directly or indirectly, whether as a partner, employee, creditor, shareholder, or otherwise, promote, participate or engage in any activity or other business competitive with the Company's business. Executive shall not invest in any company or business which competes in any manner with the Company; *provided that*, Executive may, without violating this section, own, as a passive investment, shares of capital stock of a publicly-held corporation that engages in competition if (i) such shares are actively traded on an established national securities market in the United States, (ii) the number of shares of such corporation's capital stock that are owned beneficially (directly or indirectly) by the Executive represents less than one percent of the total number of shares of such corporation's outstanding capital stock, and (iii) Executive is not otherwise associated directly or indirectly with such corporation or with any affiliate of such corporation.

3. COMPENSATION OF THE EXECUTIVE.

3.1 Base Salary. The Company shall pay the Executive a base salary at the rate of $315,000 per year (the "***Base Salary***"), less payroll deductions and all required withholdings, payable in regular bi-weekly payments or otherwise in accordance with Company policy. Such Base Salary shall be prorated for any partial year of employment on the basis of a 365-day fiscal year.

3.2 Discretionary Bonuses. In addition to the Base Salary, the Executive will be eligible to receive a yearly discretionary merit bonus pursuant to the Company's annual performance bonus plan, with a target amount of such bonus equal to up to 50% of Executive's Base Salary (the "***Annual Bonus***"). Such Annual Bonus shall be prorated for any partial year of employment on the basis of a 365-day fiscal year. The target percentage for the Annual Bonus is subject to modification from time to time in the discretion of the Board. Whether Executive receives an Annual Bonus for any given year, and the amount of any such Annual Bonus, will be determined by the Board in its sole discretion based upon the Company's and Executive's achievement of objectives and milestones to be determined on an annual basis by the Board. Executive must remain an active employee through the end of the applicable performance period, including through the date of payment, in order to earn an Annual Bonus for that year and any such bonus will be paid in a lump sum prior to March 15 of the year following the year in which Executive's right to such amount became vested.

3.3 Equity Compensation. Upon Executive's commencement of employment with Company and subject to the approval of the Board of Directors or Compensation Committee, Executive will be eligible for an initial stock option grant to purchase 300,000 shares of the Company's common stock at a price equal to the closing price of the stock on the date the options

are granted. This stock option is expected to vest over a four-year period (25% will vest after one year, with the balance to vest in equal monthly installments over the following 36 months thereafter, subject to Executive's Continued Service to the Company) and expire ten (10) years after the grant date. The stock option will be subject to the terms and conditions set forth in the Regulus 2019 Equity Incentive Plan (the "Plan"), and the terms and conditions set forth in the stock option grant notices and option agreements. Executive will be provided confirmation of the vesting schedule and the applicable Plan documents once employment begins. Notwithstanding the foregoing or the provisions of any such grant agreements, all outstanding stock options subject to vesting based on Company performance, that are held by the Executive as of immediately before a Change in Control, shall become fully vested and exercisable as of immediately before, and contingent upon the occurrence of, the Change in Control provided that the Executive is employed with the Company as of such date. The Board may grant additional stock, stock options, or other equity awards to Executive in its sole discretion.

3.4 Changes to Compensation. It is anticipated that the Executive will be considered on an annual basis for merit increases in base compensation consistent with performance and market trends but subject to Board approval in its sole discretion. Subject to Section 5.3 below, the Executive's compensation may be changed from time to time in the Company's sole discretion based upon Board approved changes to the Company's operating plan after considering relevant business conditions.

3.5 Employment Taxes. All of the Executive's compensation and payments under this Agreement shall be subject to customary withholding taxes and any other employment taxes as are commonly required to be collected or withheld by the Company.

3.6 Benefits. The Executive shall, in accordance with Company policy and the terms of the applicable plan documents, be eligible to participate in benefits under any executive benefit plan or arrangement which may be in effect from time to time and made available to the Company's executive or key management employees.

3.7 Vacations and Holidays. In accordance with Company policies, Executive shall be entitled to accrue three weeks of paid vacation during each calendar year, subject to applicable maximum accrual caps; and Executive shall also be entitled to certain paid holidays. The Company may modify any of its benefit plans or policies, including its vacation and holiday policies, from time to time in its sole discretion.

3.8 Expenses. The Company will reimburse Executive for reasonable travel, entertainment or other expenses incurred by Executive in furtherance or in connection with the performance of Executive's duties hereunder, in accordance with the Company's expense reimbursement policy as in effect from time to time. For the avoidance of doubt, to the extent that any reimbursements payable to Executive are subject to the provisions of Section 409A of the Internal Revenue Code of 1986, as amended (the "***Code***"): (a) to be eligible to obtain reimbursement for such expenses Executive must submit expense reports within 45 days after the expense is incurred, (b) any such reimbursements will be paid no later than December 31 of the year following the year in which the expense was incurred, (c) the amount of expenses reimbursed in one year will not affect the amount eligible for reimbursement in any subsequent year, and (d)

the right to reimbursement under this Agreement will not be subject to liquidation or exchange for another benefit.

4. DEFINITIONS.

For purposes of this Agreement, the following terms shall have the following meanings:

4.1 Cause. At any time other than during the Change in Control Protection Period, "***Cause***" for the Company to terminate Executive's employment hereunder means the occurrence of any of the following events: (i) Executive's commission of any felony or any crime involving fraud, dishonesty or moral turpitude under the laws of the United States or any state thereof; (ii) Executive's attempted commission of, or participation in, a fraud or act of dishonesty against the Company; (iii) Executive's intentional, material violation of any contract or agreement between the Executive and the Company (including this Agreement) or of any statutory duty owed to the Company; (iv) Executive's unauthorized use or disclosure of the Company's confidential information or trade secrets; or (v) Executive's gross misconduct. During the Change in Control Protection Period, and notwithstanding the foregoing, "***Cause***" for the Company to terminate Executive's employment hereunder means the occurrence of any of the following events: (I) Executive's conviction of any felony or any crime involving fraud, dishonesty or moral turpitude under the laws of the United States or any state thereof; (II) commission of an intentional act of fraud, embezzlement or theft by the Executive in the course of Executive's employment by the Company; (III) Executive's intentional, material violation of any contract or agreement between the Executive and the Company (including this Agreement) or of any statutory duty owed to the Company which is not remedied within a thirty (30) days' written notice from the Company specifying such failure; (IV) Executive's intentional and unauthorized use or disclosure of the Company's confidential information or trade secrets which is materially and demonstrably injurious to the Company; or (V) Executive's gross misconduct. For purposes of item (III) of this Cause definition, the Executive will have the opportunity to remedy this failure only the first time that the Company provides notice that Cause exists pursuant to item (III).

4.2 Change in Control. For purposes of this Agreement, "***Change in Control***" means: the occurrence of any one or more of the following events: (i) any person (within the meaning of Section 13(d) or 14(d) of the Securities Exchange Act of 1934, as amended), other than Ionis Pharmaceuticals, Inc. or Alnylam Pharmaceuticals, becomes the owner, directly or indirectly, of securities of the Company representing more than 50% of the combined voting power of the Company's then outstanding securities (other than in connection with a transaction involving the issuance of securities by the Company the principal purpose of which is to raise capital for the Company); (ii) there is consummated a merger, consolidation or similar transaction to which the Company is a party and the stockholders of the Company immediately prior thereto do not own outstanding voting securities representing more than 50% of the combined outstanding voting power of the surviving entity immediately following such merger, consolidation or similar transaction or more than 50% of the combined outstanding voting power of the parent of the surviving entity immediately following such merger, consolidation or similar transaction; or (iii) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all of the consolidated assets of the Company and its subsidiaries, other than a sale, lease or other disposition of all or substantially all of the consolidated assets of the Company and its subsidiaries

to an entity more than 50% of the combined voting power of which is owned immediately following such disposition by the stockholders of the Company immediately prior thereto.

4.3 Complete Disability. "*Complete Disability*" shall mean the inability of the Executive to perform the Executive's duties under this Agreement because the Executive has become permanently disabled within the meaning of any policy of disability income insurance covering employees of the Company then in force. In the event the Company has no policy of disability income insurance covering employees of the Company in force when the Executive becomes disabled, the term Complete Disability shall mean the inability of the Executive to perform the Executive's duties under this Agreement by reason of any incapacity, physical or mental, which the Board, based upon medical advice or an opinion provided by a licensed physician acceptable to the Board, determines can be expected to result in death or expected to last for a continuous period of more than 12 months. Based upon such medical advice or opinion, the determination of the Board shall be final and binding and the date such determination is made shall be the date of such Complete Disability for purposes of this Agreement. The Company shall act upon this Section in compliance with the Family Medical Leave Act (if applicable to the Company), the Americans with Disabilities Act (as amended), and applicable state and local laws.

4.4 Good Reason. At any time other than during the Change in Control Protection Period, **"*Good Reason*"** means the occurrence of any of the following events without the Executive's consent; provided however, that any resignation by the Executive due to any of the following conditions shall only be deemed for Good Reason if: (i) the Executive gives the Company written notice of the intent to terminate for Good Reason within 90 days following the first occurrence of the condition(s) that the Executive believes constitutes Good Reason, which notice shall describe such condition(s); (ii) the Company fails to remedy, if remediable, such condition(s) within 30 days following receipt of the written notice (the "***Cure Period***") of such condition(s) from the Executive; and (iii) Executive actually resigns his employment within the first 15 days after expiration of the Cure Period: (a) a material breach of this Agreement by the Company; (b) a material reduction by the Company of the Executive's Base Salary as initially set forth herein or as the same may be increased from time to time; (c) a material reduction in the Executive's authority, duties or responsibilities; or (d) the Company relocates the facility that is the Executive's principal place of business with the Company to a location that requires an increase in the Executive's one-way driving distance by more than thirty-five (35) miles. For purposes of the foregoing Good Reason definition, the Company will have the opportunity to remedy the Good Reason condition only the first time that the Executive provides notice that Good Reason exists. During the Change in Control Protection Period, and notwithstanding the foregoing, **"*Good Reason*"** means the occurrence of one of the following without Executive's express, written consent: (I) a significant reduction of Executive's duties, position or responsibilities (including, without limitation, any negative change in reporting hierarchy involving the Executive or the person to whom Executive directly reports), or Executive's removal from such position and responsibilities; (II) a reduction by the Company in Executive's (A) Base Salary or target annual bonus as in effect immediately prior to such reduction, or (B) a change to the timing associated with long-term incentive awards or a reduction in the annual grant date fair value of such awards relative to the highest fair value award granted to Executive during the three (3)-year period prior to a Change in Control; (III) a material reduction by the Company in the kind or aggregate level of employee benefits to which Executive is entitled immediately prior to such reduction with the result that Executive's overall benefits package is significantly reduced; (IV) Executive is

requested to relocate (except for office relocations that would not increase Executive's one way commute by more than thirty-five (35) miles); or (V) the failure of the Company to obtain the assumption of this Agreement pursuant to Section 7. During the Change in Control Protection Period, any good faith determination of Good Reason by the Executive shall be binding on the Company provided the Company does not remedy the occurrence giving rise to Good Reason within thirty (30) days' written notice thereof from the Executive.

5. COMPENSATION UPON TERMINATION.

5.1 Death Or Complete Disability. If the Executive's employment with the Company is terminated as a result of Executive's death or Complete Disability, the Company shall pay to Executive, and/or Executive's heirs, the Executive's Base Salary and accrued and unused vacation benefits earned through the date of termination at the rate in effect at the time of termination, less standard deductions and withholdings, and the Company shall thereafter have no further obligations to the Executive and/or Executive's heirs under this Agreement.

5.2 With Cause or Without Good Reason. If the Executive's employment with the Company is terminated by the Company for Cause or if the Executive terminates employment with the Company without Good Reason, the Company shall pay the Executive's Base Salary and accrued and unused vacation benefits earned through the date of termination at the rate in effect at the time of termination, less standard deductions and withholdings, and the Company shall thereafter have no further obligations to the Executive under this Agreement.

5.3 Without Cause or for Good Reason. If the Executive's employment with the Company is terminated by the Company without Cause, or Executive resigns for Good Reason, and in either case Executive signs a waiver and release of claims (in substantially the form attached hereto as **Exhibit A**, or in such other form of release as the Company may require (the "***Release***")) on or within the time period set forth therein, but in no event later than 45 days after Executive's termination date, and allows such Release to become effective in accordance with its terms (such latest permitted date on which the Release could become effective, the "***Release Deadline***"), then Executive will receive the following benefits:

5.3.1 Severance Payment. A payment equal to the equivalent of twelve (12) months of the Executive's Base Salary (the "***Severance Payment***"), less standard deductions and withholdings, which shall be paid in a single lump sum within five days after the effective date of the Release. For the avoidance of doubt, the Severance Payment shall relate to the Base Salary at the rate in effect during the last regularly scheduled payroll period immediately preceding the date of the termination, and prior to any reduction in Base Salary that would permit the Executive to voluntarily terminate employment for Good Reason.

5.3.2 Health Benefits Cash Payment. On the effective date of the Release, the Company will pay to the Executive a single, lump-sum cash amount equal to (i) 229.56% multiplied by the total cost of the projected premiums for group medical, dental and vision insurance coverage (the "***Health Benefits***") for a period of twelve (12) months following the date of the Executive's termination of employment, based on the projected premium rates for such period for continuation of coverage in accordance with the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("***COBRA***") determined, in all cases, as of the date of the

Executive's termination of employment (1) based on the Company plans in which the Executive participates and the level of the Executive's Health Benefits coverage as of immediately preceding the date of the Executive's termination of employment or, if more favorable to the Executive, the level of the Executive's Health Benefits coverage as in effect at any time during the ninety (90)-day period immediately preceding the date of a Change in Control, and (2) assuming, to the extent applicable, an increase of four percent (4%) in the applicable premium rates at the beginning of each calendar year during such twelve (12)-month period from those in effect as of the end of the previous calendar year. For the avoidance of doubt, the cash amount described in this paragraph shall be in lieu of the provision of any welfare benefits following the date of the Executive's termination of employment and the Executive's sole right to post-termination welfare benefits shall be those required to be made available under COBRA, the cost of which (if elected) shall be borne solely by the Executive.

5.3.3 Equity Acceleration. Contingent on the effective date of the Release, all of the outstanding stock options, restricted stock or other equity awards that Executive holds with respect to the Company's common stock that have time-based vesting shall accelerate and vest such that all shares shall be vested and fully exercisable as of the effective date of Executive's termination of employment. Equity awards that Executive holds with respect to the Company's common stock that are subject to vesting based on Company performance will not accelerate upon Executive's termination for any reason. In order to give effect to the foregoing provision, notwithstanding anything to the contrary set forth in Executive's equity award agreements, following any termination of Executive's employment that is without Cause or for Good Reason, none of Executive's equity awards shall terminate with respect to any vested or unvested portion subject to such award before the later of (A) the effective date of the Release, or (B) the Release Deadline.

5.4 Additional Change in Control Related Severance Benefits. In the event that Executive's employment with the Company is terminated without Cause or Executive resigns for Good Reason within the one month period immediately preceding or the twelve month period immediately following the effective date of a Change in Control (such thirteen-month period, the "***Change in Control Protection Period***"), then subject to the Executive's delivery to the Company of an effective Release as required pursuant to Section 5.3, Executive shall be entitled to all of the severance benefits described under Section 5.3 above, provided that:

5.4.1 The Executive shall additionally be entitled to a lump sum payment equivalent to the Executive's target Annual Bonus that was in effect at the time of Executive's termination (the "***Bonus Payment***"). The Bonus Payment shall be subject to all standard deductions and withholdings and shall be paid in a single lump sum within five days after the later of (A) the effective date of the Release, or (B) the effective date of the Change in Control (if Executive's termination occurs prior to the Change in Control), but in no event later than March 15 of the year following the year in which Executive's termination of employment occurred.

5.5 Termination by Mutual Agreement of the Parties. The Executive's employment pursuant to this Agreement may be terminated at any time upon mutual agreement, in writing, of the Parties. Any such termination of employment shall have the consequences specified in such writing.

5.6 No Mitigation. The Executive shall not be required to mitigate the amount of any payment or benefit provided for in this Section 5 by seeking other employment or otherwise, nor shall the amount of such payment be reduced by reason of compensation or other income the Executive receives for services rendered after the Executive's termination of employment with the Company.

5.7 Exclusive Remedy. In the event of the Executive's termination of employment on account of an involuntary termination without Cause or a voluntary termination for Good Reason, the provisions of this Section 5 are intended to be and are exclusive and in lieu of any other rights or remedies to which the Executive or the Company may otherwise be entitled, whether at law, tort or contract, in equity, or under this Agreement. Payments made to or on behalf of the Executive under any other severance plan, policy, contract or arrangement with the Company shall reduce amounts payable under this Agreement on a dollar for dollar basis.

5.8 Survival of Certain Provisions. Sections 6 and 18 shall survive the termination of this Agreement.

6. CONFIDENTIAL AND PROPRIETARY INFORMATION; NONSOLICITATION.

6.1 As a condition of employment, Executive agrees to execute and to abide by the Company's Employee Confidential Information and Inventions Agreement.

6.2 While employed by the Company and for one year thereafter, the Executive agrees that in order to protect the Company's trade secrets and confidential and proprietary information from unauthorized use, the Executive will not, either directly or through others, solicit or attempt to solicit any employee, consultant or independent contractor of the Company to terminate his or her relationship with the Company in order to become an employee, consultant or independent contractor to or for any other person or business entity.

7. ASSIGNMENT AND BINDING EFFECT.

This Agreement shall be binding upon and inure to the benefit of the Executive and the Executive's heirs, executors, personal representatives, assigns, administrators and legal representatives. Because of the unique and personal nature of the Executive's duties under this Agreement, neither this Agreement nor any rights or obligations under this Agreement shall be assignable by the Executive.

The Company will require any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business and/or assets of the Company, to expressly assume and agree to perform the obligations under this Agreement in the same manner and to the same extent that the Company would be required to perform if no such succession had taken place. As used in this Section 7, Company includes any successor to its business or assets as aforesaid which executes and delivers this Agreement or which otherwise becomes bound by all the terms and provisions of this Agreement by operation of law.

8. CHOICE OF LAW.

This Agreement shall be construed and interpreted in accordance with the internal laws of the State of California.

9. INTEGRATION.

This Agreement, including **Exhibit A**, contains the complete, final and exclusive agreement of the Parties relating to the terms and conditions of the Executive's employment and the termination of the Executive's employment, and supersedes all prior and contemporaneous oral and written employment agreements or arrangements between the Parties except as indicated herein.

10. AMENDMENT.

Except as otherwise provided for in this Agreement, this Agreement cannot be amended or modified except by a written agreement signed by the Executive and the Company as directed by the Board.

11. WAIVER.

No term, covenant or condition of this Agreement or any breach thereof shall be deemed waived, except with the written consent of the Party against whom the wavier is claimed, and any waiver or any such term, covenant, condition or breach shall not be deemed to be a waiver of any preceding or succeeding breach of the same or any other term, covenant, condition or breach.

12. SEVERABILITY.

The finding by a court of competent jurisdiction of the unenforceability, invalidity or illegality of any provision of this Agreement shall not render any other provision of this Agreement unenforceable, invalid or illegal. Such court shall have the authority to modify or replace the invalid or unenforceable term or provision with a valid and enforceable term or provision which most accurately represents the Parties' intention with respect to the invalid or unenforceable term or provision.

13. INTERPRETATION; CONSTRUCTION.

The headings set forth in this Agreement are for convenience of reference only and shall not be used in interpreting this Agreement. This Agreement has been drafted by legal counsel representing the Company, but the Executive has been encouraged to consult with, and have consulted with, the Executive's own independent counsel and tax advisors with respect to the terms of this Agreement. The Parties acknowledge that each Party and its counsel has reviewed and revised, or had an opportunity to review and revise, this Agreement, and any 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 Agreement.

14. REPRESENTATIONS AND WARRANTIES.

The Executive represents and warrants that the Executive is not restricted or prohibited, contractually or otherwise, from entering into and performing each of the terms and covenants contained in this Agreement, and that the Executive's execution and performance of this Agreement will not violate or breach any other agreements between the Executive and any other person or entity.

15. COUNTERPARTS; FACSIMILE.

This Agreement may be executed in two counterparts, each of which shall be deemed an original, all of which together shall contribute one and the same instrument. Facsimile signatures shall be treated the same as original signatures.

16. DISPUTE RESOLUTION.

To ensure the timely and economical resolution of disputes that may arise in connection with Executive's employment with the Company, Executive and the Company agree that any and all disputes, claims, or causes of action arising from or relating to the enforcement, breach, performance, negotiation, execution, or interpretation of this Agreement, Executive's employment, or the termination of Executive's employment, including but not limited to statutory claims, shall be resolved to the fullest extent permitted by law by final, binding and confidential arbitration, by a single arbitrator, in San Diego, California, conducted by JAMS, Inc. ("***JAMS***") under the then applicable JAMS rules (which can be found at the following web address: http://www.jamsadr.com/rulesclauses). By agreeing to this arbitration procedure, both Executive and the Company waive the right to resolve any such dispute through a trial by jury or judge or administrative proceeding. The Company acknowledges that Executive will have the right to be represented by legal counsel at any arbitration proceeding. The arbitrator shall: (a) have the authority to compel adequate discovery for the resolution of the dispute and to award such relief as would otherwise be permitted by law; and (b) issue a written arbitration decision, to include the arbitrator's essential findings and conclusions and a statement of the award. The arbitrator shall be authorized to award any or all remedies that Executive or the Company would be entitled to seek in a court of law. The Company shall pay all JAMS' arbitration fees in excess of the amount of court fees that would be required of the Executive if the dispute were decided in a court of law. Nothing in this Agreement is intended to prevent either Executive or the Company from obtaining injunctive relief in court to prevent irreparable harm pending the conclusion of any such arbitration. Any awards or orders in such arbitrations may be entered and enforced as judgments in the federal and state courts of any competent jurisdiction.

17. TRADE SECRETS.

It is the understanding of both the Company and the Executive that the Executive shall not divulge to the Company and/or its subsidiaries any confidential information or trade secrets belonging to others, including the Executive's former employers, nor shall the Company and/or its Affiliates seek to elicit from the Executive any such information. Consistent with the foregoing, the Executive shall not provide to the Company and/or its Affiliates, and the Company

and/or its Affiliates shall not request, any documents or copies of documents containing such information.

18. ADVERTISING WAIVER.

The Executive agrees to permit the Company and/or its affiliates, subsidiaries, or joint ventures currently existing or which shall be established during Executive's employment by the Company (collectively, "***Affiliates***"), and persons or other organizations authorized by the Company and/or its Affiliates, to use, publish and distribute advertising or sales promotional literature concerning the products and/or services of the Company and/or its Affiliates, or the machinery and equipment used in the provision thereof, in which the Executive's name and/or pictures of the Executive taken in the course of the Executive's provision of services to the Company and/or its Affiliates, appear. The Executive hereby waives and releases any claim or right the Executive may otherwise have arising out of such use, publication or distribution. The Company agrees that, following termination of the Executive's employment, it will not create any new such literature containing the Executive's name and/or pictures without the Executive's prior written consent.

19. APPLICATION OF SECTION 409A.

All benefits under this Agreement are intended to qualify for an exemption from application of Section 409A of the Code and the regulations and other guidance thereunder and any state law of similar effect ("***Section 409A***") or to comply with its requirements to the extent necessary to avoid adverse personal tax consequences under Section 409A, and any ambiguities herein shall be interpreted accordingly.

Notwithstanding anything to the contrary set forth herein, any severance benefits that constitute "deferred compensation" within the meaning of Section 409A shall not commence in connection with the Executive's termination of employment unless and until the Executive has also incurred a "separation from service" (as such term is defined in Treasury Regulation Section 1.409A-1(h)) ("***Separation From Service***"), unless the Company reasonably determines that such amounts may be provided to the Executive without causing the Executive to incur the additional 20% tax under Section 409A.

It is intended that each installment of the severance benefit payments provided for in this Agreement is a separate "payment" for purposes of Treasury Regulation Section 1.409A-2(b)(2)(i). For the avoidance of doubt, it is intended that payments of the severance benefits set forth in this Agreement satisfy, to the greatest extent possible, the exemptions from the application of Section 409A provided under Treasury Regulation Sections 1.409A-1(b)(4), 1.409A-1(b)(5) and 1.409A-1(b)(9). However, if the Company (or, if applicable, the successor entity thereto) determines that the severance benefits constitute "deferred compensation" under Section 409A and the Executive is, on the termination of service, a "specified employee" of the Company or any successor entity thereto, as such term is defined in Section 409A(a)(2)(B)(i) of the Code, then, solely to the extent necessary to avoid the incurrence of the adverse personal tax consequences under Section 409A, the timing of the severance benefit payments shall be delayed until the earlier to occur of: (i) the date that is six months and one day after the Executive's Separation From Service, or (ii) the date of the Executive's death. If all or any portion of any amounts payable to Executive is deferred to comply with Section 409A in accordance with the foregoing, such

payments shall accrue interest at the six (6)-month Libor rate, and, on or before the date of the Executive's Separation From Service, the Company shall make an irrevocable contribution of the amount deferred to comply with Section 409A to a grantor trust established by the Company prior to the Change in Control consistent with the terms of Rev. Proc. 92-64, 1992-33 I.R.B. 11, with irrevocable instructions to pay such amounts to Executive on the earlier to occur of: (i) the date that is six months and one day after the Executive's Separation From Service, or (ii) the date of the Executive's death. Such grantor trust shall have an independent trustee and the Company shall bear all costs, expenses and fees, including legal and trustee fees, of establishing and maintaining such trust.

None of the severance benefits will be paid or otherwise delivered prior to the effective date of the Release. If the severance benefits are not covered by one or more exemptions from the application of Section 409A and the Release could become effective in the calendar year following the calendar year in which Executive's Separation From Service occurs, the Release will not be deemed effective any earlier than the Release Deadline. Except to the minimum extent that payments must be delayed because Executive is a "specified employee" or until the effectiveness of the Release, all amounts will be paid as soon as practicable in accordance with the Company's normal payroll practices.

The severance benefits are intended to qualify for an exemption from application of Section 409A or comply with its requirements to the extent necessary to avoid adverse personal tax consequences under Section 409A, and any ambiguities herein shall be interpreted accordingly.

20. PARACHUTE PAYMENTS.

In the event that any of the severance payments and other benefits provided by this Agreement or otherwise payable to Executive (a) constitute "parachute payments" within the meaning of Section 280G of the Code, and (b) but for this Section, would be subject to the excise tax imposed by Section 4999 of the Code ("***Excise Tax***"), Executive's severance payments and benefits under this Agreement or otherwise shall be payable either in full or in such lesser amount which would result in no portion of such severance payments or benefits being subject to the Excise Tax, whichever of the foregoing amounts, taking into account the applicable federal, state and local income and employment taxes and the Excise Tax, results in the receipt by Executive, on an after-tax basis, of the greatest amount of severance payments and benefits under this Agreement or otherwise, notwithstanding that all or some portion of such severance payments or benefits may be taxable under Section 4999 of the Code. Any reduction in the severance payments and benefits required by this Section shall be made in the following order: (i) reduction of cash payments; (ii) reduction of accelerated vesting of equity awards other than stock options; (iii) reduction of accelerated vesting of stock options; and (iv) reduction of other benefits paid or provided to Executive.

The calculations in this Section will be performed by the professional firm engaged by the Company for general tax purposes as of the day prior to the date of the event that might reasonably be anticipated to result in severance payments and benefits that would otherwise be subject to the Excise Tax. If the tax firm so engaged by the Company is serving as accountant or auditor for the acquiring company, the Company shall appoint a nationally recognized tax firm to make the determinations required by this Section. The Company shall bear all expenses with respect to the determinations by such firm required to be made by this Section. The Company and

Executive shall furnish such tax firm such information and documents as the tax firm may reasonably request in order to make its required determination. The tax firm will provide its calculations, together with detailed supporting documentation, to the Company and Executive as soon as practicable following its engagement. Any good faith determinations of the tax firm made hereunder shall be final, binding and conclusive upon the Company and Executive. However, the Executive shall have the final authority to make any good faith determination(s) associated with the assumptions used by the tax firm in providing its calculations, and such good faith determination by the Executive shall be binding on the Company.

As a result of the uncertainty in the application of Sections 409A, 280G or 4999 of the Code at the time of the initial determination by the professional tax firm described in this Section, it is possible that the Internal Revenue Service (the "***IRS***") or other agency will claim that an Excise Tax greater than that amount, if any, determined by such professional firm for the purposes of this Section is due (the "***Additional Excise Tax***"). Executive shall notify the Company in writing of any claim by the IRS or other agency that, if successful, would require payment of Additional Excise Tax. Executive and the Company shall each reasonably cooperate with the other in connection with any administrative or judicial proceedings concerning the existence or amount of liability for Excise Tax with respect to payments made or due to Executive. The Company shall pay all reasonable fees, expenses and penalties of Executive relating to a claim by the IRS or other agency. In the event it is finally determined that a further reduction would have been required under this Section to place Executive in a better after-tax position, Executive shall repay the Company such amount within 30 days thereof in order to effect such result.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

REGULUS THERAPEUTICS INC.

By: /s/ Joseph Hagan
Joseph Hagan
President and CEO

/s/ Denis Drygin, Ph.D.
DENIS DRYGIN, PH.D.

EXHIBIT A

RELEASE AND WAIVER OF CLAIMS

In consideration of the payments and other benefits set forth in Section 5 of the Employment Agreement dated September 3, 2019, to which this form is attached (the **"Employment Agreement"**), I, Denis Drygin, hereby furnish Regulus Therapeutics Inc. (the **"Company"**) with the following release and waiver (**"Release and Waiver"**).

In exchange for the consideration provided to me by the Amended Employment Agreement that I am not otherwise entitled to receive, I hereby generally and completely release the Company and its directors, officers, employees, shareholders, partners, agents, attorneys, predecessors, successors, parent and subsidiary entities, insurers, affiliates, and assigns (collectively, the "**Released Parties**") from any and all claims, liabilities and obligations, both known and unknown, that arise out of or are in any way related to events, acts, conduct, or omissions occurring prior to my signing this Release and Waiver (collectively, the "**Released Claims**"). The Released Claims include, but are not limited to: (1) all claims arising out of or in any way related to my employment with the Company or the termination of that employment; (2) all claims related to my compensation or benefits from the Company, including, but not limited to, salary, bonuses, commissions, vacation pay, expense reimbursements, severance pay, fringe benefits, stock, stock options, or any other ownership interests in the Company; (3) all claims for breach of contract, wrongful termination, and breach of the implied covenant of good faith and fair dealing; (4) all tort claims, including, but not limited to, claims for fraud, defamation, emotional distress, and discharge in violation of public policy; and (5) all federal, state, and local statutory claims, including, but not limited to, claims for discrimination, harassment, retaliation, attorneys' fees, or other claims arising under the federal Civil Rights Act of 1964 (as amended), the federal Americans with Disabilities Act of 1990 (as amended), the federal Age Discrimination in Employment Act of 1967 (as amended) (**"ADEA"**), the federal Family and Medical Leave Act (as amended), the California Labor Code, and the California Fair Employment and Housing Act (as amended). Notwithstanding the foregoing, the following are not included in the Released Claims (the "**Excluded Claims**"): (a) any rights or claims for indemnification I may have pursuant to any written indemnification agreement with the Company to which I am a party, the charter, bylaws, or operating agreements of the Company, or under applicable law; (b) any rights or claims to unemployment compensation, funds accrued in my 401k account, or any vested equity incentives; (c) any rights or claims I may have pursuant to the Amended Employment Agreement for separation pay or benefits after a Change in Control (as defined therein); (d) any rights that are not waivable as a matter of law; and (e) any claims arising from the breach of this Release and Waiver. Furthermore, if there is a dispute over severance pay or benefits payable to me pursuant to the Amended Employment Agreement, the Company will nevertheless pay to me all amounts that are not in dispute and my claim for such amounts that are in dispute shall also be deemed an Excluded Claim. I hereby represent and warrant that, other than the Excluded Claims, I am not aware of any claims I have or might have against any of the Released Parties that are not included in the Released Claims.

I also acknowledge that I have read and understand Section 1542 of the California Civil Code which reads as follows: "**A general release does not extend to claims which the creditor does not know or suspect to exist in his or her favor at the time of executing the release, which if known by him or her must have materially affected his or her settlement with the debtor.**" I hereby expressly waive and relinquish all rights and benefits under that section and any law of any jurisdiction of similar effect with respect to any claims I may have against the Company.

I acknowledge that, among other rights, I am waiving and releasing any rights I may have under ADEA, that this Release and Waiver is knowing and voluntary, and that the consideration given for this Release and Waiver is in

addition to anything of value to which I was already entitled as an executive of the Company. If I am 40 years of age or older upon execution of this Release and Waiver, I further acknowledge that I have been advised, as required by the Older Workers Benefit Protection Act, that: (a) the release and waiver granted herein does not relate to claims under the ADEA which may arise after this Release and Waiver is executed; (b) I should consult with an attorney prior to executing this Release and Waiver; (c) I have twenty one (21) days in which to consider this Release and Waiver (although I may choose voluntarily to execute this Release and Waiver earlier); (d) I have seven (7) days following the execution of this Release and Waiver to revoke my consent to this Release and Waiver; and (e) this Release and Waiver shall not be effective until the seven (7) day revocation period has expired without my having previously revoked this Release and Waiver.

If I am less than 40 years of age upon execution of this Release and Waiver, I acknowledge that I have the right to consult with an attorney prior to executing this Release and Waiver (although I may choose voluntarily not to do so); and that I have ten (10) days from the date of termination of my employment with the Company in which to consider this Release and Waiver (although I may choose voluntarily to execute this Release and Waiver earlier).

I acknowledge my continuing obligations under my Employee Confidentiality and Inventions Assignment Agreement a copy of which is attached hereto (the **"CIAA"**). Pursuant to the CIAA, I understand that among other things, I must not use or disclose any confidential or proprietary information of the Company and I must immediately return all Company property and documents (including all embodiments of proprietary information) and all copies thereof in my possession or control. I understand and agree that my right to the severance benefits I am receiving is in exchange for my agreement to the terms of this Release and Waiver and is contingent upon my continued compliance with my CIAA.

This Release and Waiver, including the CIAA, constitutes the complete, final and exclusive embodiment of the entire agreement between the Company and me with regard to the subject matter hereof. I am not relying on any promise or representation by the Company that is not expressly stated herein. This Release and Waiver may only be modified by a writing signed by both me and a duly authorized officer of the Company.

Date: _____ By: _____

DENIS DRYGIN

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [***], HAS BEEN OMITTED BECAUSE REGULUS THERAPEUTICS INC. HAS DETERMINED THE INFORMATION (I) IS NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM TO REGULUS THERAPEUTICS INC. IF PUBLICLY DISCLOSED.

SECOND AMENDMENT TO LOAN AND SECURITY AGREEMENT

THIS SECOND AMENDMENT to Loan and Security Agreement (this "**Amendment**") is made effective as of March 6, 2018 (the "**Second Amendment Date**") and made, by and among OXFORD FINANCE LLC, a Delaware limited liability company with an office located at 133 North Fairfax Street, Alexandria, Virginia 22314 (in its individual capacity, "**Oxford**"; and in its capacity as Collateral Agent, "**Collateral Agent**"), the Lenders listed on Schedule 1.1 of the Loan Agreement (as defined below) from time to time including Oxford in its capacity as a Lender (each a "**Lender**" and collectively, the "**Lenders**") and REGULUS THERAPEUTICS INC., a Delaware corporation with offices located at 10614 Science Center Dr., San Diego, California 92121 ("**Borrower**").

WHEREAS, Collateral Agent, Borrower and Lenders party thereto from time to time have entered into that certain Loan and Security Agreement, dated as of June 17, 2016 (as amended, supplemented or otherwise modified from time to time, the "**Loan Agreement**") pursuant to which Lenders have provided to Borrower certain loans in accordance with the terms and conditions thereof;

WHEREAS, Borrower wishes to transfer certain equipment ("**Listed Equipment**") set forth on Exhibit A hereto to a third party capital leasing company as specified in writing by the Borrower to the Collateral Agent and the Required Lenders in connection with this Amendment (such specified third party capital leasing company, or such other third party capital leasing as the Company and the Collateral Agent and the Required Lenders agree to, the "**Leasing Company**") for a consideration of $491,637;

WHEREAS, the Listed Equipment is part of the Collateral;

WHEREAS, Section 7.1 of the Loan Agreement requires the Borrower to obtain the consent of the Required Lenders prior to transferring any portion of the Collateral other than as set forth in Section 7.1 and Borrower has requested Required Lenders to consent to the transfer of the Listed Equipment to Leasing Company for a consideration of $491,637;

WHEREAS, the Collateral Agent and Required Lenders have agreed to provide such consent, but only to the extent set forth herein, in accordance with the terms and subject to the conditions set forth herein, and in reliance upon the representations and warranties set forth herein; and

WHEREAS, Borrower, Lenders and Collateral Agent desire to amend certain provisions of the Loan Agreement as provided herein and subject to the terms and conditions set forth herein;

NOW, THEREFORE, in consideration of the promises, covenants and agreements contained herein, and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, Borrower, Lenders and Collateral Agent hereby agree as follows:

1. Capitalized terms used herein but not otherwise defined shall have the respective meanings given to them in the Loan Agreement.

2. Subject to the terms and conditions hereof, the Collateral Agent and the Required Lenders hereby consent to the transfer of the Listed Equipment to the Leasing Company for a consideration of $491,637.

3. Section 2.2(b) of the Loan Agreement is hereby amended and restated in its entirety as follows:

   (b) Repayment. Borrower shall make monthly payments of interest only commencing on the first (1st) Payment Date following the Funding Date of each Term Loan, and continuing on the Payment Date of each successive month thereafter through and including the Payment Date immediately preceding the Amortization Date. Borrower agrees to pay, on the Funding Date of each Term Loan, any initial partial

monthly interest payment otherwise due for the period between the Funding Date of such Term Loan and the last day of the calendar month during which the Funding Date occurs. Commencing on the Amortization Date, and continuing on the Payment Date of each month thereafter, Borrower shall make consecutive equal monthly payments of principal, together with applicable interest, in arrears, to each Lender, as calculated by Collateral Agent (which calculations shall be deemed correct absent manifest error) based upon: (1) the amount of such Lender's Term Loan, (2) the effective rate of interest, as determined in Section 2.3(a), and (3) a repayment schedule with respect to the Term Loans equal to (A) twenty-four (24) months, if the Equity Event does not occur and (B) fifteen (15) months if the Equity Event occurs. All unpaid principal and accrued and unpaid interest with respect to each Term Loan is due and payable in full on the Maturity Date. Each Term Loan may only be prepaid in accordance with Sections 2.2(c) and 2.2(d).

4. Section 2.5 of the Loan Agreement is hereby amended by deleting the word "and" immediately following Section 2.5(d), replacing "." at the end of Section 2.5(e) with "; and" and adding Section 2.5(f) thereto as follows:

(f) Second Amendment Fee. A fully earned and non-refundable second amendment fee in the amount of One Hundred Twenty Five Thousand Dollars ($125,000.00), which shall become due and payable, if the Equity Event occurs, upon the earlier of: (i) the Maturity Date, (ii) the acceleration of any Term Loan, or (iii) the prepayment of a Term Loan pursuant to Section 2.2(c) or (d).

5. The Amortization Table attached to the Disbursement Letter dated as of the Effective Date is hereby amended and restated as set forth on the Amortization Table attached as Exhibit B hereto.

6. Section 6.2(a)(iii) of the Loan Agreement is hereby amended and restated in its entirety as follows:

(iii) as soon as available, but no later than one hundred twenty (120) days after the last day of Borrower's fiscal year or within five (5) days of filing with the SEC, audited consolidated financial statements prepared under GAAP, consistently applied, together with an unqualified opinion (which may, however, contain a going concern uncertainty paragraph so long as no Event of Default has occurred and is continuing) on the financial statements from an independent certified public accounting firm acceptable to Collateral Agent in its reasonable discretion;

7. The following Section 6.2(d) is hereby added to the Loan Agreement:

(d) Deliver to Collateral Agent and Alexandria Real Estate, as soon as available, but no later than (i) thirty (30) days after the end of each fiscal quarter and (ii) thirty (30) days after the last day of each month in which Borrower has delivered in excess of One Hundred Thousand Dollars ($100,000) worth of new Collateral to the property located at 10614 Science Center Dr., San Diego, CA 92121, an updated, fully comprehensive, Exhibit A to the landlord lien waiver among Alexandria Real Estate, Borrower and Collateral Agent.

8. Section 13.1 of the Loan Agreement is hereby amended by adding the following definitions thereto in alphabetical order:

"**Alexandria Real Estate**" means ARE-SD REGION NO.44, LLC, a Delaware limited liability company.

"**Equity Event**" is the receipt by Borrower, on or after March 6, 2018 and on or prior to June 30, 2018, of unrestricted net cash proceeds of not less than Thirty Million Dollars ($30,000,000.00) from (i) the issuance

and sale by Borrower of its unsecured subordinated convertible debt and/or equity securities and/or (ii) “up front” or milestone payments in connection with a joint venture, collaboration or other partnering transaction.

9. Section 13.1 of the Loan Agreement is hereby amended by amending and restating the following definition therein as follows:

“**Amortization Date**” is (i) July 1, 2018, if the Equity Event does not occur and (ii) April 1, 2019, if the Equity Event occurs.

10. Section 13.1 of the Loan Agreement is hereby amended by amending and restating clause (e) of the definition of “Permitted Indebtedness” therein as follows:

(e) Indebtedness consisting of capitalized lease obligations and purchase money Indebtedness, in each case incurred by Borrower or any of its Subsidiaries to finance the acquisition, repair, improvement or construction of fixed or capital assets of such person, provided that (i) the aggregate outstanding principal amount of all such Indebtedness does not exceed One Million Six Hundred Thousand Dollars ($1,600,000.00) at any time and (ii) the principal amount of such Indebtedness does not exceed the lower of the cost or fair market value of the property so acquired or built or of such repairs or improvements financed with such Indebtedness (each measured at the time of such acquisition, repair, improvement or construction is made);

11. The form of the Compliance Certificate (Exhibit C to the Loan Agreement) is hereby amended and restated as set forth on Exhibit C attached hereto.

12. Limitation of Amendment.

i. The amendments and consents set forth above are effective for the purposes set forth herein and shall be limited precisely as written and shall not be deemed to (a) be a consent to any amendment, waiver or modification of any other term or condition of any Loan Document, or (b) otherwise prejudice any right, remedy or obligation which Lenders or Borrower may now have or may have in the future under or in connection with any Loan Document, as amended hereby.

ii. This Amendment shall be construed in connection with and as part of the Loan Documents and all terms, conditions, representations, warranties, covenants and agreements set forth in the Loan Documents, except as herein amended, are hereby ratified and confirmed and shall remain in full force and effect.

13. To induce Collateral Agent and Lenders to enter into this Amendment, Borrower hereby represents and warrants to Collateral Agent and Lenders as follows:

a. Immediately after giving effect to this Amendment (a) the representations and warranties contained in the Loan Documents are true, accurate and complete in all material respects as of the date hereof (except to the extent such representations and warranties relate to an earlier date, in which case they are true and correct as of such date), and (b) no Event of Default has occurred and is continuing;

b. Borrower has the power and due authority to execute and deliver this Amendment and to perform its obligations under the Loan Agreement, as amended by this Amendment;

c. The organizational documents of Borrower delivered to Collateral Agent on the Effective Date, and updated pursuant to subsequent deliveries by the Borrower to the Collateral Agent, remain true, accurate and complete and have not been amended, supplemented or restated and are and continue to be in full force and effect;

d. The execution and delivery by Borrower of this Amendment and the performance by Borrower of its obligations under the Loan Agreement, as amended by this Amendment, do not and will not contravene (i) any law or regulation binding on or affecting Borrower, (ii) any contractual restriction with a Person binding on Borrower, (iii) any order, judgment or decree of any court or other governmental or public body or authority, or subdivision thereof, binding on Borrower, or (iv) the organizational documents of Borrower;

e. The execution and delivery by Borrower of this Amendment and the performance by Borrower of its obligations under the Loan Agreement, as amended by this Amendment, do not require any order, consent, approval, license, authorization or validation of, or filing, recording or registration with, or exemption by any governmental or public body or authority, or subdivision thereof, binding on Borrower, except as already has been obtained or made; and

f. This Amendment has been duly executed and delivered by Borrower and is the binding obligation of Borrower, enforceable against Borrower in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, liquidation, moratorium or other similar laws of general application and equitable principles relating to or affecting creditors' rights.

14. Except as expressly set forth herein, the Loan Agreement shall continue in full force and effect without alteration or amendment. This Amendment and the Loan Documents represent the entire agreement about this subject matter and supersede prior negotiations or agreements.

15. This Amendment shall be deemed effective as of the Second Amendment Date upon the due execution and delivery to Collateral Agent of this Amendment by each party hereto.

16. Borrower agrees to promptly pay (but in no event in less than 5 Business Days of invoice date) all unpaid Lenders' Expenses incurred through the date hereof, which may be debited (or ACH'd) from any of Borrower's accounts.

17. This Amendment may be executed in any number of counterparts, each of which shall be deemed an original, and all of which, taken together, shall constitute one and the same instrument.

18. This Amendment and the rights and obligations of the parties hereto shall be governed by and construed in accordance with the laws of the State of California.

[*Balance of Page Intentionally Left Blank*]

IN WITNESS WHEREOF, the parties hereto have caused this Second Amendment to Loan and Security Agreement to be executed as of the date first set forth above.

BORROWER:

REGULUS THERAPEUTICS INC.

By /s/ Daniel Chevallard
Name: Daniel Chevallard
Title: Chief Financial Officer

COLLATERAL AGENT AND LENDER:

OXFORD FINANCE LLC

By /s/ Colette H. Featherly
Name: Colette H. Featherly
Title: Senior Vice President

Exhibit A

Equipment

Description	Vendor	Cost	In-Service Date
Memory Upgrade for Bioinformatic Servers	[***]	$ [***]	1/6/17
AKTA Pure 150	[***]	$ [***]	7/7/17
Next Seq – 500 Sequencing System	[***]	$ [***]	1/26/17
Fluorescence Stereoscope	[***]	$ [***]	3/16/17
Attune NXT AFC BRV – Laser	[***]	$ [***]	10/6/17
DFC Camera	[***]	$ [***]	3/16/17
Meso QuickPlex Sq 120	[***]	$ [***]	2/1/17
		$ [***]	

Exhibit B

Amortization Table

Please see attached.

Oxford Finance LLC
Amortization Table
Regulus AA01

Start Date:	6/22/2016	
Interest Rate:	8.96%	
Term:	47	32 IO + 15 PI
Payment:	Varies	
Final Payment:	$1,100,000.00	5.50%
Amount:	20,000,000.00	
Interim Interest Days:	9	
Interim Interest:	$44,800.00	

Disclaimer:

THIS IS A STANDARD AMORTIZATION SCHEDULE. IT IS NOT INTENDED TO BE USED FOR PAYOFF PURPOSES.

THIS AMORTIZATION SCHEDULE REPRESENTS A FLOATING INTEREST RATE LOAN. INTEREST RATE CHARGED MAY DIFFER FROM RATE PER THIS SCHEDULE BASED ON THE TERMS OF THE LOAN AGREEMENT

PMT No.	Payment Date	Beginning Balance	Monthly Payment	Interest	Principal	Ending Balance
	7/1/16		Interim Interest Due			$20,000,000.00
1	8/1/16	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
2	9/1/16	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
3	10/1/16	$20,000,000.00	$149,333.33	$149,333.33	$0.00	$20,000,000.00
4	11/1/16	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
5	12/1/16	$20,000,000.00	$149,333.33	$149,333.33	$0.00	$20,000,000.00
6	1/1/17	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
7	2/1/17	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
8	3/1/17	$20,000,000.00	$139,377.78	$139,377.78	$0.00	$20,000,000.00
9	4/1/17	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
10	5/1/17	$20,000,000.00	$149,333.33	$149,333.33	$0.00	$20,000,000.00
11	6/1/17	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
12	7/1/17	$20,000,000.00	$149,333.33	$149,333.33	$0.00	$20,000,000.00
13	8/1/17	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
14	9/1/17	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00

15	10/1/17	$20,000,000.00	$149,333.33	$149,333.33	$0.00	$20,000,000.00
16	11/1/17	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
17	12/1/17	$20,000,000.00	$149,333.33	$149,333.33	$0.00	$20,000,000.00
18	1/1/18	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
19	2/1/18	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
20	3/1/18	$20,000,000.00	$139,377.78	$139,377.78	$0.00	$20,000,000.00
21	4/1/18	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
22	5/1/18	$20,000,000.00	$149,333.33	$149,333.33	$0.00	$20,000,000.00
23	6/1/18	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
24	7/1/18	$20,000,000.00	$149,333.33	$149,333.33	$0.00	$20,000,000.00
25	8/1/18	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
26	9/1/18	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
27	10/1/18	$20,000,000.00	$149,333.33	$149,333.33	$0.00	$20,000,000.00
28	11/1/18	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
29	12/1/18	$20,000,000.00	$149,333.33	$149,333.33	$0.00	$20,000,000.00
30	1/1/19	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
31	2/1/19	$20,000,000.00	$154,311.11	$154,311.11	$0.00	$20,000,000.00
32	3/1/19	$20,000,000.00	$139,377.78	$139,377.78	$0.00	$20,000,000.00
33	4/1/19	$20,000,000.00	$1,487,644.44	$154,311.11	$1,333,333.33	$18,666,666.67
34	5/1/19	$18,666,666.67	$1,472,711.11	$139,377.78	$1,333,333.33	$17,333,333.33
35	6/1/19	$17,333,333.33	$1,467,069.63	$133,736.30	$1,333,333.33	$16,000,000.00
36	7/1/19	$16,000,000.00	$1,452,800.00	$119,466.67	$1,333,333.33	$14,666,666.67
37	8/1/19	$14,666,666.67	$1,446,494.81	$113,161.48	$1,333,333.33	$13,333,333.33
38	9/1/19	$13,333,333.33	$1,436,207.41	$102,874.07	$1,333,333.33	$12,000,000.00
39	10/1/19	$12,000,000.00	$1,422,933.33	$89,600.00	$1,333,333.33	$10,666,666.67
40	11/1/19	$10,666,666.67	$1,415,632.59	$82,299.26	$1,333,333.33	$9,333,333.33
41	12/1/19	$9,333,333.33	$1,403,022.22	$69,688.89	$1,333,333.33	$8,000,000.00
42	1/1/20	$8,000,000.00	$1,395,057.78	$61,724.44	$1,333,333.33	$6,666,666.67
43	2/1/20	$6,666,666.67	$1,384,770.37	$51,437.04	$1,333,333.33	$5,333,333.33
44	3/1/20	$5,333,333.33	$1,371,828.15	$38,494.81	$1,333,333.33	$4,000,000.00
45	4/1/20	$4,000,000.00	$1,364,195.56	$30,862.22	$1,333,333.33	$2,666,666.67
46	5/1/20	$2,666,666.67	$1,353,244.44	$19,911.11	$1,333,333.33	$1,333,333.33
47	6/1/20	$1,333,333.33	$1,343,620.74	$10,287.41	$1,333,333.33	$0.00
Final	6/1/20	Final Payment	$1,100,000.00	$1,100,000.00	$0.00	
		Totals	$27,160,610.37	$7,160,610.37	$20,000,000.00	

EXHIBIT C

Compliance Certificate

TO: OXFORD FINANCE LLC, as Collateral Agent and Lender

FROM: REGULUS THERAPEUTICS INC.

The undersigned authorized officer ("**Officer**") of REGULUS THERAPEUTICS INC. ("**Borrower**"), hereby certifies that in accordance with the terms and conditions of the Loan and Security Agreement by and among Borrower, Collateral Agent, and the Lenders from time to time party thereto (the "**Loan Agreement**;" capitalized terms used but not otherwise defined herein shall have the meanings given them in the Loan Agreement),

(a) Borrower is in complete compliance for the period ending _____ with all required covenants in the Loan Agreement except as noted below;

(b) There are no Events of Default, except as noted below;

(c) Except as noted below, all representations and warranties of Borrower stated in the Loan Documents are true and correct in all material respects on this date and for the period described in (a), above; provided, however, that such materiality qualifier shall not be applicable to any representations and warranties that already are qualified or modified by materiality in the text thereof; and provided, further that those representations and warranties expressly referring to a specific date shall be true, accurate and complete in all material respects as of such date.

(d) Borrower, and each of Borrower's Subsidiaries, has timely filed all required tax returns and reports or extensions therefor, Borrower, and each of Borrower's Subsidiaries, has timely paid all foreign, federal, state, and local taxes, assessments, deposits and contributions owed by Borrower, or Subsidiary, except as otherwise permitted pursuant to the terms of Section 5.8 of the Loan Agreement;

(e) No Liens have been levied or claims made against Borrower or any of its Subsidiaries relating to unpaid employee payroll or benefits of which Borrower has not previously provided written notification to Collateral Agent and the Lenders.

Attached are the required documents, if any, supporting our certification(s). The Officer, on behalf of Borrower, further certifies that the attached financial statements are prepared in accordance with Generally Accepted Accounting Principles (GAAP) and are consistently applied from one period to the next except as explained in an accompanying letter or footnotes and except, in the case of unaudited financial statements, for the absence of footnotes and subject to yearend audit adjustments as to the interim financial statements.

Please indicate compliance status since the last Compliance Certificate by circling Yes, No, or N/A under "Complies" column.

	Reporting Covenant	Requirement	Actual	Complies		
1)	Financial statements – balance sheet and income statement	Monthly within 30 days		Yes	No	N/A
2)	Financial statements – cash flow statement	Quarterly within 45 days		Yes	No	N/A
3)	Annual (CPA Audited) statements	Within 120 days after FYE		Yes	No	N/A
4)	Annual Financial Projections/Budget (prepared on a monthly basis)	Annually (within 45 days of FYE), and when revised		Yes	No	N/A
5)	8-K, 10-K and 10-Q Filings	If applicable, within 5 days of filing		Yes	No	N/A
6)	Compliance Certificate	Monthly within 30 days		Yes	No	N/A
7)	IP Report	When required		Yes	No	N/A
8)	Total amount of Borrower's cash and cash equivalents at the last day of the measurement period		$_____	Yes	No	N/A
9)	Total amount of Borrower's Subsidiaries' cash and cash equivalents at the last day of the measurement period		$_____	Yes	No	N/A
10)	Updated Exhibit A to Landlord Waiver	Quarterly within 30 days, and in any month in which new Collateral in excess of $100,000 was delivered to 10614 Science Center Dr., San Diego, California 92121		Yes	No	N/A

Deposit and Securities Accounts

(Please list all accounts; attach separate sheet if additional space needed)

	Institution Name	Account Number	New Account?		Account Control Agreement in place?	
1)			Yes	No	Yes	No
2)			Yes	No	Yes	No
3)			Yes	No	Yes	No
4)			Yes	No	Yes	No

Other Matters

1)	Have there been any changes in management since the last Compliance Certificate?	Yes	No
2)	Have there been any transfers/sales/disposals/retirement of Collateral or IP prohibited by the Loan Agreement?	Yes	No
3)	Have there been any new or pending claims or causes of action against Borrower that involve more than Two Hundred Fifty Thousand Dollars ($250,000.00)?	Yes	No
4)	Have there been any amendments of or other changes to the Borrower's Operating Documents or any of its Subsidiaries' Operating Documents? If the Borrower is no longer subject to Securities Exchange Act of 1934, as amended, have there been any material changes to the capitalization of Borrower? If yes, please provide copies of any such amendments or changes to the Operating Documents and capitalization table, as applicable, with this Compliance Certificate.	Yes	No

Exceptions

Please explain any exceptions with respect to the certification above: (If no exceptions exist, state “No exceptions.” Attach separate sheet if additional space needed.)

REGULUS THERAPEUTICS INC.

By _____
Name: _____
Title: _____

Date:

LENDER USE ONLY

Received by:_____ Date: ____

Verified by: _____ Date: ____

Compliance Status: Yes No

Exhibit 10.44

LEASE AGREEMENT

THIS LEASE AGREEMENT (this "**Lease**") is made this 11th day of February, 2021, between **ARE-SD REGION NO. 58, LLC**, a Delaware limited liability company ("**Landlord**"), and **REGULUS THERAPEUTICS INC.**, a Delaware corporation ("**Tenant**").

Building: 4224 Campus Point Drive, San Diego, California

Premises: That certain portion of second floor of the Building, known as Suite 210, containing approximately 13,438 rentable square feet, as determined by Landlord, 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, $55.00 per rentable square foot of the Premises per year. Base Rent shall be subject to adjustment pursuant to Section 4 hereof.

Rentable Area of Premises: 13,438 sq. ft.

Rentable Area of Building: 101,966 sq. ft.

Rentable Area of Project: 314,103 sq. ft.

Tenant's Share of Operating Expenses of Building: 13.18%

Building's Share of Operating Expenses of Project: 32.46%

Security Deposit: $61,590.83

Target Commencement Date: The date that is 9 weeks from the mutual execution and delivery of this Lease by the parties.

Rent Adjustment Percentage: 3%

Base Term: Beginning on the Commencement Date and ending 60 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: Research and development laboratory, manufacturing, related office and other related uses consistent with the character of the Project and otherwise in compliance with the provisions of Section 7 hereof.

Address for Rent Payment:
P.O. Box 102323
Pasadena, CA 91189
Attention: Corporate Secretary

Landlord's Notice Address:
26 North Euclid Avenue
Pasadena, CA 91101

Tenant's Notice Address Tenant's Notice Address
Prior to the Commencement Date: After the Commencement Date:
10628 Science Center Drive, Suite 225 4224 Campus Point Drive, Suite 210
San Diego, California 92121 San Diego, California 92121
Attention: Lease Administrator Attention: Lease Administrator

The following Exhibits and Addenda are attached hereto and incorporated herein by this reference:

[X] **EXHIBIT A** - PREMISES DESCRIPTION [X] **EXHIBIT B** - DESCRIPTION OF PROJECT
[X] **EXHIBIT C** - FUME HOOD LOCATIONS [X] **EXHIBIT D** - COMMENCEMENT DATE
[X] **EXHIBIT E** - RULES AND REGULATIONS [X] **EXHIBIT F** - TENANT'S PERSONAL PROPERTY
[X] **EXHIBIT G** - MAINTENANCE OBLIGATIONS [X] **EXHIBIT H** - CONTROL AREAS
[X] **EXHIBIT I** - LANDLORD'S FF&E [X] **EXHIBIT J** - STORAGE AREA

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**." Landlord reserves the right to modify Common Areas, provided that such modifications do not materially adversely affect Tenant's access to or 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, 365 days a year, 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.

2. **Delivery; Acceptance of Premises; Commencement Date**. Landlord shall use reasonable efforts to deliver exclusive possession of the Premises to Tenant on or before the Target Commencement Date, 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. If Landlord does not Deliver the Premises within 90 days of the Target Commencement Date for any reason other than Force Majeure (as defined in Section 34) delays, this Lease may be terminated by Tenant by written notice to Landlord, and if so terminated by Tenant: (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 term "**Landlord's Work**" shall mean the installation by Landlord, at Landlord's sole cost, of four 6-foot fume hoods in the Premises in the locations reflected on **Exhibit C**. If Tenant does not elect to terminate this Lease within 10 business days of the lapse of such 90 day period, such right to terminate this Lease shall be waived and this Lease shall remain in full force and effect.

The "**Commencement Date**" shall be the date Landlord Delivers the Premises to Tenant. Upon request of Landlord, 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, Tenant's failure to execute and deliver such acknowledgment shall not affect Landlord's rights hereunder. The "**Term**" of this Lease shall be the Base Term, as defined above on the first page of this Lease.

During the Term, Tenant shall have the right to use the furniture and equipment belonging to Landlord described on **Exhibit I** attached to this Lease and located within the Premises on the Commencement Date ("**Landlord's FF&E**"). Tenant shall have no right to remove any of Landlord's FF&E from the Premises without Landlord's prior written consent, which consent shall not be unreasonably withheld, conditioned or delayed, and Landlord's FF&E shall be returned to Landlord at the expiration or earlier termination of the Term in substantially the same condition as received by Tenant, except for ordinary wear and tear and casualty.

Landlord shall, commencing on the date that is 2 business days after the mutual execution and delivery of this Lease by the parties, permit Tenant access to the Premises for Tenant's installation and set-up of its furniture, fixtures and equipment in the Premises (collectively, "**FF&E Installation**"), provided that Tenant coordinates all such FF&E Installation with Landlord (including any coordination required to avoid interference with Landlord's performance of Landlord's Work), and Tenant complies with this Lease and all other reasonable restrictions and conditions Landlord may impose during the FF&E Installation. For the avoidance of doubt, Tenant may not conduct business in any portion of the Premises prior to the Commencement Date. All such access shall be during normal business hours. Notwithstanding the foregoing, Tenant shall have no right to enter onto any portion of the Premises or the Project unless and until Tenant shall deliver to Landlord evidence reasonably satisfactory to Landlord demonstrating that the insurance required to be carried by Tenant pursuant to Section 17 is in full force and effect. Any access to the Premises by Tenant before the Commencement Date shall be subject to all of the terms and conditions of this Lease, excluding the obligation to pay Base Rent and Operating Expenses.

Except as otherwise expressly set forth in this Lease: (i) Tenant shall accept the Premises in their "as-is" condition as of the Commencement Date; (ii) Landlord shall have no obligation for any defects in the Premises; and (iii) Tenant's taking possession of the Premises shall be conclusive evidence that Tenant accepts the Premises.

Tenant agrees and acknowledges that, except as otherwise 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**. Base Rent for the first full month following the expiration of the Abatement Period and the Security Deposit 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 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 in this Lease.

Notwithstanding anything to the contrary contained herein, so long as Tenant is not in default beyond applicable notice and cure periods under this Lease at any time during the Abatement Period, Tenant shall not be required to pay Base Rent for the period commencing on the Commencement Date through the date that is 90 consecutive calendar days after the Commencement Date (the "**Abatement Period**"). Tenant shall commence paying Base Rent immediately following the expiration of the Abatement Period.

(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**. 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.

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 of 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.

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 Building (including the Building's Share of all costs and expenses of any kind or description incurred or accrued by Landlord with respect to the Project which are not specific to the Building) including, without duplication, (r) insurance, (s) Taxes (as defined in Section 9), (t) Utilities (as defined in Section 11), (u) 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) the cost of existing and/or future amenities serving the Project (the "**Project Amenities**") (including, without limitation, any subsidies which Landlord may provide in connection with such Project Amenities), including, without limitation, the Campus Amenities located on the Campus Project (as such terms are defined in Section 40), (including, without limitation, any subsidies which may be provided in connection with the Campus Amenities), (x) the cost of transportation services (including Shuttle Service Costs (as defined in Section 41(s)), (y) Permitted Capital Improvements (as defined below) amortized over the lesser of 10 years and the useful life of such Permitted Capital Improvements, and (z) the costs of Landlord's third party property manager (not to exceed 3% of Base Rent) or, if there is no third party property manager, administration rent in the amount of 3% of Base Rent (provided that during the Abatement Period, Tenant shall nonetheless be required to pay administration rent each month equal to the amount of the administration rent that Tenant would have been required to pay in the absence of there being an Abatement Period)), excluding only:

(a) the original design and/or construction costs of the Building or the Project, the renovation of the Building or the Project prior to the date of this Lease, or costs of correcting defects in such original construction or renovation of the Building or the Project;

(b) capital expenditures other than those capital repairs improvements and replacements that: (1) are required in order to comply with Legal Requirements (other than compliance with those Legal Requirements for which Landlord is, at Landlord's sole cost and expense, responsible for compliance with pursuant the provisions of the first sentence of the second paragraph of Section 7 below); (2) actually reduce Operating Expenses, (3) maintain or improve the utility, efficiency or capacity of the Building, any Building Systems or the Common Areas of the Project, (4) are incurred in connection with repairs that extend the life of any capital items and/or (5) are triggered by Tenant's particular use of the Premises or Tenant's Alterations (collectively, "**Permitted Capital Improvements**");

(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 and all

payments of base rent (but not taxes or operating expenses) under any ground lease or other underlying lease of all or any portion of the Project;

(d) depreciation of the Project (except for capital improvements amortized as required pursuant to this Section 5, 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, construction allowances and signage costs 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) 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;

(j) 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;

(k) 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;

(l) 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);

(m) 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, Utilities or other payments required to be made by Landlord hereunder before delinquency;

(n) 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;

(o) costs of Landlord's charitable or political contributions, or of fine art maintained at the Project;

(p) 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;

(q) costs incurred in the sale or refinancing of the Project;

(r) 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;

(s) any bad debt loss, rent loss or reserves for bad debts or rent loss;

(t) any costs incurred to remove, study, test or remediate Hazardous Materials in or about the Building or the Project for which Tenant is not responsible under Section 30 hereof;

(u) any expenses otherwise includable within Operating Expenses to the extent actually reimbursed by insurance (or, if Landlord fails to maintain the insurance required to be carried by Landlord pursuant to Section 17, would have been reimbursed by insurance required to be carried by Landlord pursuant to Section 17);

(v) any reserves (other than reserves for Taxes for the then-current year);

(w) costs occasioned by condemnation;

(x) long term rentals for equipment ordinarily considered to be of a capital nature if such equipment is customarily leased in the operation of first class laboratory/office buildings in the San Diego metropolitan area;

(y) costs arising from the gross negligence or willful misconduct of Landlord; and

(z) 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.

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 or, at Tenant's election, Landlord shall provide a credit in the amount of the excess against the Base Rent next coming due under this Lease, 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 90 days after Tenant's receipt thereof, shall contest any item therein by giving written notice to Landlord, specifying each item contested and the reason therefor. If, during such 90 day period, Tenant reasonably and in good faith questions or contests 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 an independent public accounting firm selected by Tenant from among the 4 largest in the United States, working pursuant to a fee arrangement other than a contingent fee (at Tenant's sole cost and expense) and approved by Landlord (which approval shall not be unreasonably withheld, conditioned or delayed), audit and/or review the Expense Information for the year in question (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 Building 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 Building 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 of Operating Expenses of Building" as reasonably adjusted by Landlord for changes in the physical size of the Premises or the Project occurring thereafter. 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**. Tenant shall deposit with Landlord, upon delivery of an executed copy of this Lease to Landlord, 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 Security Deposit shall be in the form of an unconditional and irrevocable letter of credit (the "**Letter of Credit**"): (i) in form and substance reasonably 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 reasonably satisfactory to Landlord, and (v) redeemable by presentation of a sight draft in the State of California. 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, which funds shall be returned to Tenant within a reasonable period following Tenant's delivery to Landlord of a substitute Letter of Credit. 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 under California Civil Code Section 1951.2, 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 10 days following written demand therefor from Landlord 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, including, without limitation, California Civil Code Section 1950.7, 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.

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, in writing, 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. The Security Deposit is not an advance rental deposit or a measure of Landlord's damages in case of Tenant's default. 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 business 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 within 10 business days' written demand from Landlord 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 specific 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 weighing 500 pounds or more 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 shall not be unreasonably withheld, conditioned or delayed. Tenant shall not, without the prior written consent of Landlord (which shall not be unreasonably withheld, conditioned or delayed), use the Premises in any manner which will require ventilation, air exchange, heating, gas, steam, electricity or water

beyond the existing capacity of the Project as proportionately allocated to the Premises based upon Tenant's Share as usually furnished for the Permitted Use.

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) and 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. 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 particular 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 particular 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 particular 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, at no material cost to Tenant, to reasonably cooperate with Landlord, and to provide such information and/or documentation as Landlord may reasonably request, in connection therewith.

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 termination by Landlord at any time upon at least 5 days' advance written notice to Tenant, (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 the parties may agree to 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 (1) for the first 30 days of such holdover, 125% of the Base Rent in effect during the last 30 days of the Term plus Operating Expenses, and (2) thereafter, 150% of Base Rent in effect during the last 30 days of the Term plus Operating Expenses, and (B) if such holdover continues in excess of 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**. 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. Taxes shall not include any net income, excess profits, franchise, gift, capital levy, capital stock, inheritance, succession, inheritance or documentary transfer taxes imposed on Landlord except to the extent such taxes are in substitution for any Taxes payable hereunder, nor shall Taxes include any fees, penalties or interest payable on account of the late payment of any Taxes (except to the extent such late payment is the result of the late payment of Additional Rent by Tenant). 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 reasonable 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 within 10 days following written demand therefor from Landlord.

10. **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, in common with other tenants of the Project, to use 2.5 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. Landlord shall not be responsible for enforcing Tenant's parking rights against any third parties, including other tenants of the Project.

11. **Utilities, Services**. Landlord shall provide, subject to the terms of this Section 11, water, electricity, HVAC, light, power, sewer, and other utilities (including gas and fire sprinklers to the extent the Project is plumbed for such services), and, with respect to the Common Areas, 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. Landlord may cause, at Landlord's expense, any 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 other than Landlord's willful misconduct, shall result in eviction or constructive eviction of Tenant, termination of this Lease or, except as otherwise provided in the immediately following paragraph, the abatement of Rent. Tenant agrees to limit use of water and sewer with respect to Common Areas to normal restroom use. Utilities shall be available to the Premises 24 hours per day, 7 days per week, except in the case of emergencies, as the result of Legal Requirements, the failure of any Utility provider to provide such Utilities, the performance by Landlord or any Utility provider of any installation, maintenance or repairs, or any other temporary interruptions. Tenant shall be responsible for obtaining and paying for its own janitorial services for the Premises.

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 gross 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 generators with not less than the capacity of the emergency generators serving the Building as of the Commencement Date, and (ii) to contract with a third party to maintain the emergency generators as per the manufacturer's standard maintenance guidelines. Except as provided in the immediately preceding sentence, Landlord shall have no obligation to provide Tenant with operational emergency generators or back-up power or to supervise, oversee or confirm that the third party maintaining the emergency generators is maintaining the generators as per the manufacturer's standard guidelines or otherwise. 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 generators when the emergency generators are 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 generators or alternative sources of back-up power. Tenant expressly acknowledges and agrees that Landlord does not guaranty that such emergency generators will be operational at all times or that emergency power will be available to the Premises when needed.

Tenant agrees to provide Landlord with access to Tenant's water and/or energy usage data on a monthly basis, either by providing Tenant's applicable utility login credentials to Landlord's Measurabl 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/or 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 (as defined in Section 13) ("**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, conditioned or delayed. 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 $30,000 (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. Except for Notice-Only Alterations, 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 5% of all charges actually incurred by Tenant or its contractors or agents in connection with any Alteration to cover Landlord's overhead and expenses for plan review, coordination, scheduling and supervision; provided, however, that no fee shall be charged by Landlord in connection with Notice-Only Alterations. 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 actually 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 reasonably 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, if the nature of such Alterations required such plans.

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, in which event 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 (which agreement by Landlord shall not be unreasonably withheld, conditioned or delayed), (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 by Landlord, 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.

13. **Landlord's Repairs**. Landlord shall, at Landlord's sole expense (and not as an Operating Expense), be responsible for capital repairs and replacements of the roof (not including the roof membrane), exterior walls and foundation of the Building ("**Structural Items**") unless the need for such repairs or replacements is caused by Tenant or any Tenant Parties, in which case Tenant shall bear the full cost to repair or replace such Structural Items. Landlord shall, as an Operating Expense, be responsible for the routine maintenance and repair of such Structural Items. Landlord, as an Operating Expense (except to the extent the cost thereof is excluded from Operating Expenses pursuant to Section 5 hereof), shall maintain, repair and replace the roof membrane and all of the exterior, parking and other Common Areas of the Project, including HVAC, electrical, mechanical, plumbing, life safety systems (including fire sprinklers), elevators and all other building systems serving the Premises and other portions of the Project (collectively, "**Building Systems**"), in good 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, at Tenant's sole cost and expense. Landlord reserves the right to temporarily 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 reasonable 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, make a commercially reasonable effort to give Tenant 24 hours advance notice of any planned stoppage of Building Systems services for routine maintenance, repairs, alterations or improvements. Tenant shall promptly give Landlord written notice of any repair required by Landlord pursuant to this Section 13 of which Tenant becomes aware, after which Landlord shall make a commercially reasonable effort to effect such repair within a reasonable period. Landlord shall use reasonable efforts to minimize interference with Tenant's operations in the Premises during such planned stoppages of Building Systems. 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 Section 13 hereof, Tenant, at its expense, shall repair, replace and maintain in good condition all interior 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 as required under this Section 14, Landlord shall give Tenant written notice of such failure. If Tenant fails to commence cure of such failure within 10 days of Landlord's written notice, and thereafter diligently prosecute such cure to completion, Landlord may perform such work and shall be reimbursed by Tenant within 10 days following written 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 of any repair or replacement to any part of the Project that results from damage caused by Tenant or any Tenant Party.

Notwithstanding anything to the contrary contained in this Lease, as of the Commencement Date, the maintenance and repair obligations for the Premises shall be allocated between Landlord and Tenant as set forth on **Exhibit G** attached hereto. The maintenance obligations allocated to Tenant pursuant to **Exhibit G** (the "**Tenant Maintenance Obligations**") shall be performed by Tenant at Tenant's sole cost and expense. The Tenant Maintenance Obligations shall include the procurement and maintenance of contracts, in form and substance reasonably satisfactory to Landlord, with copies to Landlord upon Landlord's written request, for and with contractors reasonably acceptable to Landlord specializing and experienced in the respective Tenant Maintenance Obligations. Notwithstanding anything to the contrary contained herein, the scope of work of any such contracts entered into by Tenant pursuant to this paragraph shall, at a minimum, comply with manufacturer's recommended maintenance procedures for the optimal performance of the applicable equipment. Landlord shall, notwithstanding anything to the contrary contained in this Lease, have no obligation to perform any Tenant Maintenance Obligations. The Tenant Maintenance Obligations shall not include the right or obligation on the part of Tenant to make any structural and/or capital repairs or improvements to the Project, and Landlord shall, during any period that Tenant is responsible for the Tenant Maintenance Obligations, continue, as part of Operating Expenses, to be responsible, as provided in the immediately preceding paragraph, for capital repairs and replacements required to be made to the Project. If Tenant fails to maintain any portion of the Premises for which Tenant is responsible as part of the Tenant Maintenance Obligations in a manner reasonably acceptable to Landlord within the requirements of this Lease, Landlord shall have the right, but not the obligation, to provide Tenant with written notice thereof and to assume the Tenant Maintenance Obligations if Tenant does not cure Tenant's failure within 10 days after receipt of such notice.

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 days after Tenant receives written 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 within the time period set forth above, 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 gross 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.

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 $2,000,000 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 can substantiate as resulting from Tenant's particular 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 $4,000,000 per occurrence for bodily injury and property damage with respect to the Premises. 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 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"; shall not be cancelable for nonpayment of premium unless 20 days prior written notice shall have been given to Landlord from the insurer; 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). Certificates of insurance showing the limits of coverage required hereunder and showing Landlord as an additional insured, along with reasonable evidence of the payment of premiums for the applicable period, 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, 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 insured casualty, Landlord shall notify Tenant in writing within 45 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 9 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 5 business 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, Landlord may, in its sole and absolute discretion, elect not to proceed with such repair and restoration or Tenant may by written notice to Landlord delivered within 5 business days of the expiration of the Maximum Restoration Period or, if longer, the Restoration Period, elect to terminate this Lease, in which event Landlord and Tenant shall be relieved of their respective obligations hereunder 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 (as defined in Section 34) events or to obtain Hazardous Material Clearances, all repairs or restoration not required to be done by Landlord. 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 (for any reason other than Landlord's failure to maintain the insurance required to be maintained by Landlord pursuant to Section 17). 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, in Tenant's reasonable discretion, 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 once 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 before the expiration of the current coverage.

(c) **Abandonment**. Tenant shall abandon the Premises (for any reason other than a casualty, condemnation or Force Majeure event). 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 10 days after any such lien is filed against the Premises.

(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) 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 such cure shall be completed no later than 60 days from 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.

(b) **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 equal to 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.

(c) **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.

(i) Terminate this Lease, or at Landlord's option, Tenant's right to possession only, in which event Tenant shall immediately surrender the Premises to Landlord, and if Tenant fails to do so, Landlord may, without prejudice to any other remedy which it may have for possession or arrearages in rent, enter upon and take possession of the Premises and expel or remove Tenant and any other person who may be occupying the Premises or any part thereof, without being liable for prosecution or any claim for damages therefor;

(ii) Upon any termination of this Lease, whether pursuant to the foregoing Section 21(c)(i) or otherwise, Landlord may recover from Tenant the following:

(A) The worth at the time of award of any unpaid rent which has been earned at the time of such termination; plus

(B) The worth at the time of award of the amount by which the unpaid rent which would have been earned after termination until the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; plus

(C) The worth at the time of award of the amount by which the unpaid rent for the balance of the Term after the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; plus

(D) Any other amount necessary to compensate Landlord for all the detriment proximately caused by Tenant's failure to perform its obligations under this Lease or which in the ordinary course of things would be likely to result therefrom, specifically including, but not limited to, brokerage commissions and advertising expenses incurred, expenses of remodeling the Premises or any portion thereof for a new tenant, whether for the same or a different use, and any special concessions made to obtain a new tenant; and

(E) At Landlord's election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by applicable law.

The term "**rent**" as used in this Section 21 shall be deemed to be and to mean all sums of every nature required to be paid by Tenant pursuant to the terms of this Lease, whether to Landlord or to others. As used in Sections 21(c)(ii)(A) and (B), above, the "**worth at the time of award**" shall be computed by allowing interest at the Default Rate. As used in Section 21(c)(ii)(C) above, the "**worth at the time of award**" shall be computed by discounting such amount at the discount rate of the Federal Reserve Bank of San Francisco at the time of award plus 1%.

(iii)Landlord may continue this Lease in effect after Tenant's Default and recover rent as it becomes due (Landlord and Tenant hereby agreeing that Tenant has the right to sublet or assign hereunder, subject only to reasonable limitations). Accordingly, if Landlord does not elect to terminate this Lease following a Default by Tenant, Landlord may, from time to time, without terminating this Lease, enforce all of its rights and remedies hereunder, including the right to recover all Rent as it becomes due.

(iv)Whether or not Landlord elects to terminate this Lease following a Default by Tenant, Landlord shall have the right to terminate any and all subleases, licenses, concessions or other consensual arrangements for possession entered into by Tenant and affecting the Premises or may, in Landlord's sole discretion, succeed to Tenant's interest in such subleases, licenses, concessions or arrangements. Upon Landlord's election to succeed to Tenant's interest in any such subleases, licenses, concessions or arrangements, Tenant shall, as of the date of notice by Landlord of such election, have no further right to or interest in the rent or other consideration receivable thereunder.

(v)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) hereof, at Tenant's expense.

(d) **Effect of Exercise**. Exercise by Landlord of any remedies hereunder or otherwise available shall not be deemed to be an acceptance of surrender of the Premises and/or a termination of this Lease by Landlord, it being understood that such surrender and/or termination can be effected only by the express written agreement of Landlord and Tenant. Any law, usage, or custom to the contrary notwithstanding, Landlord shall have the right at all times to enforce the provisions of this Lease in strict accordance with the terms hereof; and the failure of Landlord at any time to enforce its rights under this Lease strictly in accordance with same shall not be construed as having created a custom in any way or manner contrary to the specific terms, provisions, and covenants of this Lease or as having modified the same and shall not be deemed a waiver of Landlord's right to enforce one or more of its rights in connection with any subsequent default. A receipt by Landlord of Rent or other payment with knowledge of the breach of any covenant hereof shall not be deemed a waiver of such breach, and no waiver by Landlord of any provision of this Lease shall be deemed to have been made unless expressed in writing and signed by Landlord. Following a Default by Tenant under this Lease, to the greatest extent permitted by law, Tenant waives the service of notice of Landlord's intention to re-enter, re-take or otherwise obtain possession of the Premises as provided in any statute, or to institute legal proceedings to that end, and also waives all right of redemption in case Tenant shall be dispossessed by a judgment or by warrant of any court or judge. Any reletting of the Premises or any portion thereof shall be on such terms and conditions as Landlord in its sole discretion may determine. Landlord shall not be liable for, nor shall Tenant's obligations hereunder be diminished because of, Landlord's failure to relet the Premises or collect rent due in respect of such reletting or otherwise to mitigate any damages arising by reason of Tenant's Default. Notwithstanding any contrary provision of this Lease, neither party shall be liable to the other party for any consequential damages arising under this Lease; provided that this sentence shall not apply to Landlord's damages (x) as expressly provided for in Section 8, and/or (y) in connection with Tenant's obligations as more fully set forth in Section 30. In no event shall the foregoing limit the damages to which Landlord is entitled under this Section 21(c)(ii)(A)-(E).

22. **Assignment and Subletting**.

(a) **General Prohibition**. Without Landlord's prior written consent subject to and on the conditions described in this Section 22 (including the terms of Section 22(b) below), 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. Transfers of publicly traded stock or the issuance of new stock through nationally recognized stock exchanges (including with any initial public offering of shares) will not be deemed an assignment or other transfer for the purposes of this Lease.

(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 45 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) except in connection with a Permitted Assignment, 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 such that they may (i) attract or cause negative publicity for or about the Building or the Project, (ii) negatively affect the reputation of the Building, the Project or Landlord, (iii) attract protestors to the Building or the Project, or (iv) lessen the attractiveness of the Building or the Project to any tenants or prospective tenants, purchasers or lenders; (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 received from any prior landlord to the proposed assignee or subtenant a negative report concerning such prior landlord's experience with the proposed assignee or subtenant; (7) Landlord has experienced previous defaults by or is in litigation with the proposed assignee or subtenant; (8) the use of the Premises by the proposed assignee or subtenant will violate any applicable Legal Requirement; (9) the proposed assignee or subtenant, or any entity that, directly or indirectly, controls, is controlled by, or is under common control with the proposed assignee or subtenant, is then an occupant of the Project; (10) the proposed assignee or subtenant is an entity with whom Landlord is then-currently negotiating to lease space in the Project; or (11) 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. If this Lease is terminated with respect to less than the entire Premises, then the Base Rent and Operating Expenses payable under this Lease shall be proportionately reduced. 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 Two Thousand Five Hundred Dollars ($2,500) 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 Landlord shall have the right to approve the form of any such sublease or assignment, which approval shall not be unreasonably withheld, conditioned or delayed. In addition, Tenant shall have the right to assign this Lease, upon 30 days prior written notice to Landlord ((x) unless Tenant is prohibited from providing such notice by applicable Legal Requirements in which case Tenant shall notify Landlord promptly thereafter, and (y) if the transaction is subject to confidentiality requirements, Tenant's advance notification shall be subject to Landlord's execution of a non-disclosure agreement reasonably acceptable to Landlord and Tenant) 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**."

(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 beyond applicable notice and cure periods, 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 the rental payable under this Lease, (excluding however, any Rent payable under this Section) and actual and reasonable brokerage fees, legal costs, tenant improvements allowance, commercially reasonable free rent or commercially reasonable concessions, and any design or construction fees 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, to Tenant's knowledge, 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 delivered after the expiration of the initial 10 business day period 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 and non-discriminatory rules and regulations at any time or from time to time established by Landlord covering use of the Premises and the Project, provided that Landlord provides reasonable advance written notice rules and regulations. 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, within 10 days following Landlord written demand, to execute, acknowledge and deliver such instruments, confirming such subordination, and such instruments of attornment as shall be reasonably requested by any such Holder, provided any such instruments contain commercially reasonable 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.

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 a Landlord Party (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, which approval shall not be unreasonably withheld, conditioned or delayed. 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 reasonably 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 $2,500. 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.

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, reasonable 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 (collectively, "**Environmental Claims**") 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 Building, the Project or any adjacent property caused or permitted by Tenant or any Tenant Party results in any contamination of the Premises, the Building, 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 Building, 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, conditioned or delayed so long as such actions would not potentially have any material adverse long-term or short-term effect on the Premises, the Building or the Project. Notwithstanding anything to the contrary contained in Section 28 or 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 existed in the Premises immediately prior to the Commencement Date, (ii) the presence of any Hazardous Materials in the Premises which Tenant can prove migrated from outside of the Premises into the Premises, or (iii) contamination caused by Landlord or any Landlord's employees, agents and contractors, 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 (not more than once in any given calendar year), 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, to the best of Tenant's knowledge, 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. Tenant shall be required to pay the actual and reasonable 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 actual and reasonable 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 for which Tenant is responsible under this Lease 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. Tenant shall have the right to have a Tenant representative present while Landlord conducts tests in the Premises pursuant to this Section 30(d).

(e) **Control Areas**. Tenant shall have the use of 100% of the control area identified as control area 2.3 on **Exhibit H**. For the avoidance of doubt, Tenant shall not have rights with respect to any other control areas at the Project.

(f) **Storage Tanks**. Tenant shall have no right to use or install any underground or other storage tanks at the Project.

(g) **Tenant's Obligations**. Tenant's obligations under this Section 30 shall survive the expiration or earlier termination of this 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 for which Tenant is responsible under this Lease (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). 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.

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. 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 and assumption of this Lease by the transferee from and after the transfer, 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 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 12 months of the Term, to prospective tenants or for any other business purpose. Landlord shall use reasonable efforts to minimize interference with Tenant's operations in the Premises during any entry into the Premises by Landlord pursuant to this Section 32. Landlord may erect a suitable sign on the Premises stating the Premises are available to let or that the Project is available for sale. 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 access to or use or occupancy of the Premises for the Permitted Use or Tenant's parking (other than on a temporary basis). At Landlord's request, Tenant shall execute such instruments as may be necessary for such easements, dedications or restrictions, provided that such instruments do not materially increase Tenant's obligations or decrease Tenant's rights under this Lease. 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 comply with Tenant's reasonable safety and security requirements with respect to entering the Premises; provided, however, that Tenant has notified Landlord of such safety and security requirements prior to Landlord's entry into the Premises.

Subject to the terms of this Section 32, Landlord may from time to time during the Term, during regular business hours and/or otherwise at times mutually acceptable to Landlord and Tenant, conduct third party tours of the Premises ("**Tours**"), which Tours may be held with not less than 2 business day's advance notice; provided that in no event shall Landlord conduct more than 10 tours in any 12 month period (except during the final 12 months of the Term during which no such cap shall apply with respect to showing the space to prospective tenants). For the avoidance of doubt, during such Tours, Landlord shall comply with Tenant's reasonable safety and security requirements as provided in the final sentence of the immediately preceding paragraph, including any safety measures to prevent the spread of the COVID-19 virus.

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.

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 CBRE. 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 CBRE, 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.

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 Infections 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 sole 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 bearing Tenant's name and logo and Tenant's name and location on the Building lobby directory shall be inscribed, painted or affixed for Tenant by Landlord at the sole cost and expense of Landlord, and shall be of a size, color and type reasonably acceptable to Landlord. Nothing may be placed on the exterior of corridor walls or corridor doors other than Landlord's standard lettering. The directory tablet shall be provided exclusively for the display of the name and location of tenants.

39. **Intentionally Omitted**.

40. **Campus Amenities**.

(a) **Generally**. Subject to the provisions of this Section 40, all or a portion of the Project Amenities may be located at that certain property adjacent to the Project owned by Campus Landlord known as known as 10290 Campus Point Drive, 10300 Campus Point Drive, 4110 Campus Point Court, 10260 Campus Point Drive and 4161 Campus Point Court (the "**Campus Project**"), which is owned by certain affiliates of Landlord (collectively, "**Campus Landlord**"), an affiliate of Landlord, which Project Amenities located at the Campus Project (the "**Campus Amenities**") may including shared conferencing facilities ("**Shared Conference Facilities**"), a fitness center and/or a restaurant for non-exclusive use by tenants of (i) the Campus Project, and (ii) tenants of the Project, and (iii) any other parties permitted by Campus Landlord (collectively, "**Users**"). Landlord, Campus Landlord, Alexandria Real Estate Equities, Inc. ("**ARE**"), and all affiliates of Landlord, Campus Landlord and ARE may be referred to collectively herein as the "**ARE Parties**." Campus Landlord shall have the sole right to determine all matters related to the Campus 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 availability of any of the

Campus Amenities and that Tenant is not entering into this Lease relying on the availability of any of the Campus Amenities or with an expectation that the Campus Amenities will ever be made available to Tenant.

(b) **License**. Commencing on the Commencement Date, and so long as the Campus 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 Campus Amenities in common with other Users pursuant to the terms of this Section 40. To the extent that the Campus Amenities include a fitness center, fitness center passes shall be issued to Tenant for all full time employees of Tenant employed at the Premises. If any employee of Tenant to whom a fitness center pass has been issued ceases to be an employee of Tenant at the Premises, Tenant shall, promptly following such employee's change in status, collect such employee's pass and notify Landlord of such employee's change in status.

Operating Expenses payable with respect to the Campus Amenities shall include all costs and expenses of any kind or description whatsoever incurred or accrued each calendar year with respect to the Campus Amenities (including, without limitation, subsidies which Campus Landlord or its affiliates may provide in connection with the Campus Amenities), not including costs or expenses in connection with the design or construction of the Campus Amenities or the cost of correcting defects in the construction of the Campus Amenities. The "**Project Amenities Share**" shall mean the Project's share of the Operating Expenses payable with respect to the Campus Amenities, which shall be allocated as reasonably determined by the Campus Landlord between and among the Campus Project and the Project.

(c) **Shared Conference Facilities**. Use by Tenant of the Shared Conference Facilities and restaurant at the Campus Project shall be in common with other Users with scheduling procedures reasonably determined by Campus Landlord or Campus Landlord's then designated event operator ("**Event Operator**"). Tenant's use of the Shared Conference Facilities shall be subject to the payment by Tenant to Event Operator of a fee equal to Event Operator's quoted rates for the usage of the Shared Conference Facilities in effect at the time of Tenant's scheduling. Tenant's use of the conference rooms in the Shared Conference Area shall be subject to availability and Event Operator (or, if applicable, Campus Landlord) reserves the right to exercise its reasonable discretion in the event of conflicting scheduling requests among Users.

Tenant shall be required to use the food service operator designated by Campus Landlord at the Campus Project (the "**Designated Food and Beverage Operator**") for any food and/or beverage service or catered events held by Tenant in the Shared Conference Facilities. Campus Landlord has the right, in its sole and absolute discretion, to change the Designated Food and Beverage Operator at any time. Tenant may not use any vendors other than the Designated Food and Beverage Operator nor may Tenant supply its own food and/or beverages in connection with any food and/or beverage service or catered events held by Tenant in the Shared Conference Facilities.

Tenant shall, at Tenant's sole cost and expense, (i) be responsible for the set-up of the Shared Conference Facilities in connection with Tenant's use (including, without limitation ensuring that Tenant has a sufficient number of chairs and tables and the appropriate equipment), and (ii) surrender the Shared Conference Facilities after each time that Tenant uses the Shared Conference Facilities free of Tenant's personal property, in substantially the same set up and same condition as received, and free of any debris and trash. If Tenant fails to restore and surrender the Shared Conference Facilities as required by sub-section (ii) of the immediately preceding sentence, such failure shall constitute a "**Shared Facilities Default**." Each time that Campus Landlord or Landlord reasonably determines that Tenant has committed a Shared Facilities Default, Tenant shall be required to pay Landlord a penalty within 5 business days after notice from Landlord of such Shared Facilities Default. The penalty payable by Tenant in connection with the first Shared Facilities Default shall be $200. The penalty payable shall increase by $50 for each subsequent Shared Facilities Default (for the avoidance of doubt, the penalty shall be $250 for the second Shared Facilities Default, shall be $300 for the third Shared Facilities Default, etc.). In addition to the foregoing, Tenant shall be responsible for reimbursing Campus Landlord or Landlord, as applicable, for all reasonable out-of-pocket costs actually expended by Campus Landlord or Landlord, as applicable, in repairing any damage to the

Shared Conference Facilities, the Campus Amenities, or Campus Project caused by Tenant or any Tenant Related Party. The provisions of this Section 40(c) shall survive the expiration or earlier termination of this Lease.

(d) **Rules and Regulations**. Tenant shall be solely responsible for paying for any and all ancillary services (e.g., audio visual equipment) provided to Tenant, all food services operators and any other third party vendors providing services to Tenant with respect to the Campus Amenities. Tenant shall use the Campus Amenities (including, without limitation, the Shared Conference Facilities) in compliance with all applicable Legal Requirements and any rules and regulations imposed by Campus 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 enforced in a non-discriminatory manner. The use of the Campus 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 agreement required by Campus Landlord or the operator of the Campus Amenities to be executed by all persons wishing to use such Campus Amenities. Neither Campus 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 Campus Amenities. Tenant shall not make any alterations, additions, or improvements of any kind to the Shared Conference Facilities, the Campus Amenities or the Campus Project.

Tenant acknowledges and agrees that Campus Landlord shall have the right at any time and from time to time to reconfigure, relocate, modify or remove any of the Campus Amenities at the Campus Project and/or to revise, expand or discontinue any of the services (if any) provided in connection with the Campus Amenities.

(e) **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 Campus 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 Campus Amenities and any entry by Tenant and/or any Tenant Parties onto the Campus Project, and Tenant releases and exculpates all ARE Parties from any liability relating to, arising out of or in connection with the Campus Amenities and any entry by Tenant and/or any Tenant Parties onto the Campus Project. Tenant hereby agrees to indemnify, defend, and hold harmless the ARE Parties from any claim of damage to property or injury to person relating to, arising out of or in connection with (i) the use of the Campus Amenities by Tenant or any Tenant Parties, and (ii) any entry by Tenant and/or any Tenant Parties onto the Campus Project, except to the extent caused by the negligence or willful misconduct of ARE Parties. The provisions of this Section 40(f) shall survive the expiration or earlier termination of this Lease.

(f) **Insurance**. As of the Commencement Date, Tenant shall cause Campus Landlord to be named as an additional insured under the commercial general liability policy of insurance that Tenant is required to maintain pursuant to Section 17 of this Lease.

41. **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 with 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 41(c) may be 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 41(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. 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**. Tenant and all beneficial owners of 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) **Redevelopment of Project**. Tenant acknowledges that Landlord, in its sole discretion, may from time to time, subject to the third sentence of Section 1, expand, renovate and/or reconfigure the Project as the same may exist from time to time and, in connection therewith or in addition thereto, as the case may be, from time to time without limitation: (a) change the shape, size, location, number and/or extent of any improvements, buildings, structures, lobbies, hallways, entrances, exits, parking and/or parking areas relative to any portion of the Project; (b) modify, eliminate and/or add any buildings, improvements, and parking structure(s) either above or below grade, to the Project, the Common Areas and/or any other portion of the Project and/or make any other changes thereto affecting the same; and (c) make any other changes, additions and/or deletions in any way affecting the Project and/or any portion thereof as Landlord may elect from time to time, including without limitation, additions to and/or deletions from the land comprising the Project, the Common Areas and/or any other portion of the Project. Notwithstanding anything to the contrary contained in this Lease, Tenant shall have no right to seek damages (including abatement of Rent) or to cancel or terminate this Lease because of any proposed changes, expansion, renovation or reconfiguration of the Project nor shall Tenant have the right to restrict, inhibit or prohibit any such changes, expansion, renovation or reconfiguration; provided, however, Landlord shall not change the size, dimensions, location or Tenant's Permitted Use of the Premises.

(p) **Discontinued Use**. If, at any time following the Rent Commencement Date, Tenant does not continuously operate its business in the Premises for a period of 90 consecutive days (for any reason other than a casualty, condemnation or Force Majeure event), Landlord may, but is not obligated to, elect to terminate this Lease upon 30 days' written notice to Tenant, whereupon this Lease shall terminate 30 days' after Landlord's delivery of such written notice ("**Termination Date**"), and Tenant shall vacate the Premises and deliver possession thereof to Landlord in the condition required by the terms of this Lease on or before the Termination Date and Tenant shall have no further obligations under this Lease except for those accruing

prior to the Termination Date and those which, pursuant to the terms of this Lease, survive the expiration or early termination of this Lease.

(q) **EV Charging Stations**. Landlord shall not unreasonably withhold its consent to Tenant's written request to install 1 or more electric vehicle car charging stations ("**EV Stations**") in the parking area serving the Project; provided, however, that Tenant complies with all reasonable requirements, standards, rules and regulations which may be imposed by Landlord, at the time Landlord's consent is granted, in connection with Tenant's installation, maintenance, repair and operation of such EV Stations, which may include, without limitation, the charge to Tenant of a reasonable monthly rental amount for the parking spaces used by Tenant for such EV Stations, Landlord's designation of the location of Tenant's EV Stations, and Tenant's payment of all costs whether incurred by Landlord or Tenant in connection with the installation, maintenance, repair and operation of each Tenant's EV Station(s). Nothing contained in this paragraph is intended to increase the number of parking spaces which Tenant is otherwise entitled to use at the Project under Section 10 of this Lease nor impose any additional obligations on Landlord with respect to Tenant's parking rights at the Project.

(r) **California Accessibility Disclosure**. For purposes of Section 1938(a) of the California Civil Code, Landlord hereby discloses to Tenant, and Tenant hereby acknowledges, that the Project has not undergone inspection by a Certified Access Specialist (CASp). In addition, the following notice is hereby provided pursuant to Section 1938(e) of the California Civil Code: "A Certified Access Specialist (CASp) can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy or potential occupancy of the lessee or tenant, if requested by the lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of the CASp inspection, the payment of the fee for the CASp inspection, and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the premises." In furtherance of and in connection with such notice: (i) Tenant, having read such notice and understanding Tenant's right to request and obtain a CASp inspection, hereby elects not to obtain such CASp inspection and forever waives its rights to obtain a CASp inspection with respect to the Premises, Building and/or Project to the extent permitted by Legal Requirements; and (ii) if the waiver set forth in clause (i) hereinabove is not enforceable pursuant to Legal Requirements, then Landlord and Tenant hereby agree as follows (which constitutes the mutual agreement of the parties as to the matters described in the last sentence of the foregoing notice): (A) Tenant shall have the one-time right to request for and obtain a CASp inspection, which request must be made, if at all, in a written notice delivered by Tenant to Landlord; (B) any CASp inspection timely requested by Tenant shall be conducted (1) at a time mutually agreed to by Landlord and Tenant, (2) in a professional manner by a CASp designated by Landlord and without any testing that would damage the Premises, Building or Project in any way, and (3) at Tenant's sole cost and expense, including, without limitation, Tenant's payment of the fee for such CASp inspection, the fee for any reports prepared by the CASp in connection with such CASp inspection (collectively, the "**CASp Reports**") and all other costs and expenses in connection therewith; (C) the CASp Reports shall be delivered by the CASp simultaneously to Landlord and Tenant; (D) Tenant, at its sole cost and expense, shall be responsible for making any improvements, alterations, modifications and/or repairs to or within the Premises to correct violations of construction-related accessibility standards including, without limitation, any violations disclosed by such CASp inspection; and (E) if such CASp inspection identifies any improvements, alterations, modifications and/or repairs necessary to correct violations of construction-related accessibility standards relating to those items of the Building and Project located outside the Premises that are Landlord's obligation to repair as set forth in this Lease, then Landlord shall perform such improvements, alterations, modifications and/or repairs as and to the extent required by Legal Requirements to correct such violations, and Tenant shall reimburse Landlord for the cost of such improvements, alterations, modifications and/or repairs within 10 business days after Tenant's receipt of an invoice therefor from Landlord.

(s) **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.

(t) **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 facsimile, 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.

(u) **Attorneys' Fees**. If a dispute of arises or an action is filed under this Lease or this Lease gives rise to any other legal proceeding between any of the parties hereto, the prevailing party shall be entitled to recover from the losing party reasonable attorneys' fees, costs and expenses. The prevailing party shall also be entitled to attorneys' fees and costs after any dismissal of an action.

(v) **Storage Area**. Notwithstanding anything to the contrary contained in the Lease, in connection with Tenant's use and occupancy of the Premises, Tenant shall have the exclusive right to use that certain storage area located on the second floor of the Building, as more particularly set forth on **Exhibit J** attached hereto (the "**Storage Area**") for the storage of Tenant's property. Tenant may not store Hazardous Materials in the Storage Area. Tenant shall have all of the obligations under the Lease with respect to the Storage Area as though the Storage Area were part of the Premises, excluding the obligation to pay Base Rent. Landlord shall have no obligation to make any repairs or other improvements to the Storage Area and Tenant shall maintain the same, at Tenant's sole cost and expense, in substantially the same condition as received during the term as though the same were part of the Premises. Tenant shall, at Tenant's sole cost and expense, surrender the Storage Area at the expiration or earlier termination of the term of the Lease free of any debris and trash and free of any Hazardous Materials in accordance with the requirements of Section 28 of this Lease.

[Signatures on next page]

IN WITNESS WHEREOF, Landlord and Tenant have executed this Lease as of the day and year first above written.**TENANT:**

REGULUS THERAPEUTICS INC.,
a Delaware corporation

By: /s/ Joseph P. Hagan
Its: President and CEO

By: /s/ Cris Calsada
Its: Chief Financial Officer

LANDLORD:

ARE-SD REGION NO. 58, LLC,

a Delaware limited liability company

By: ALEXANDRIA REAL ESTATE EQUITIES, L.P.,

a Delaware limited partnership,
managing member

By: ARE-QRS CORP.,

a Maryland corporation,

general partner

By: /s/ Gary Dean

Its: Executive Vice President, RE Legal Affairs

EXHIBIT A TO LEASE

DESCRIPTION OF PREMISES

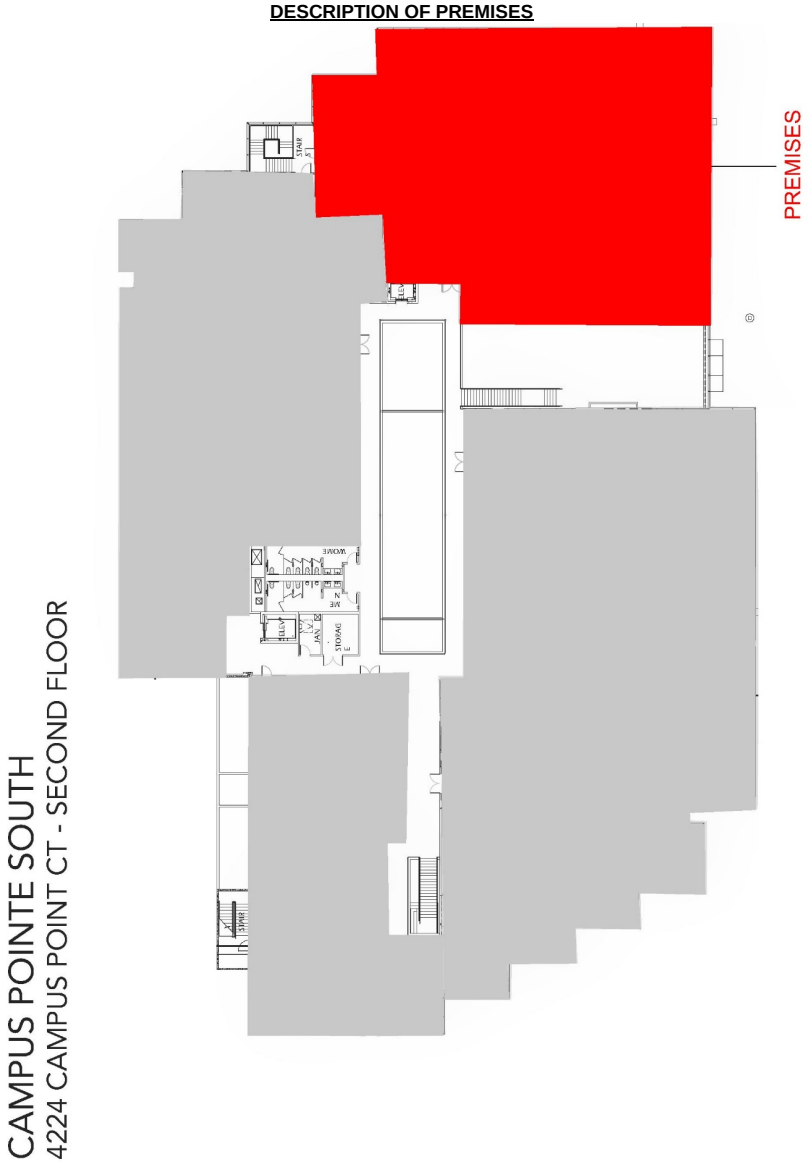
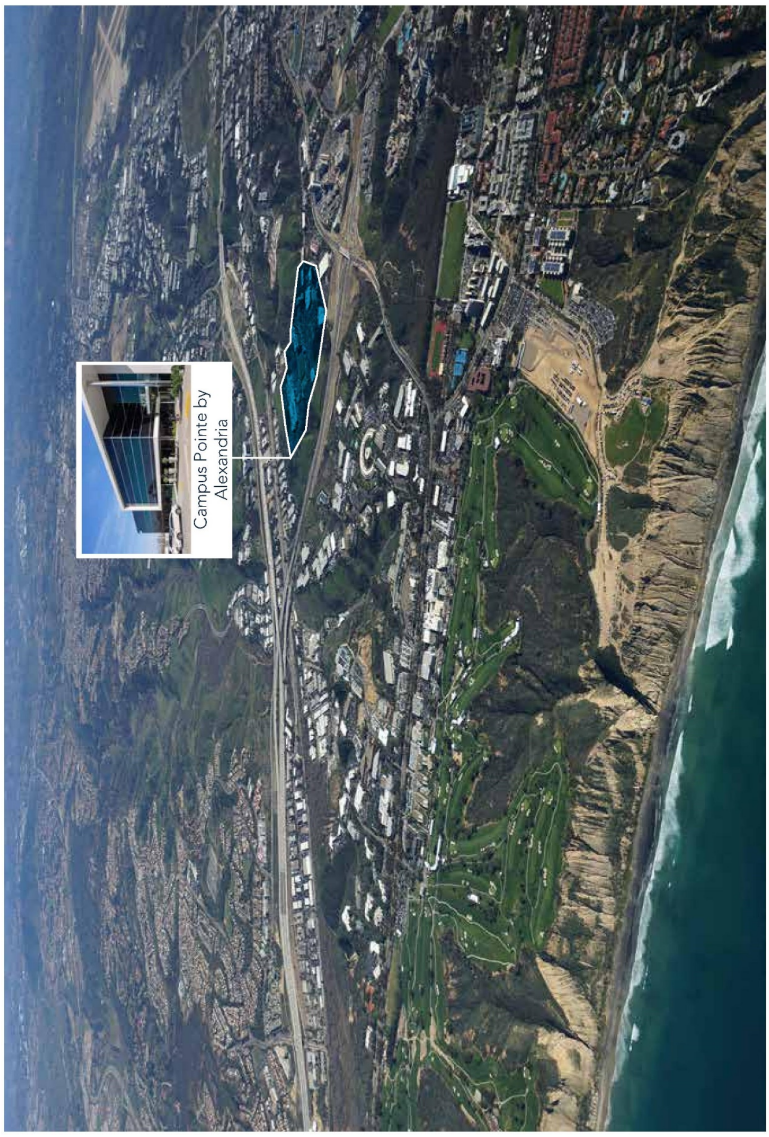


EXHIBIT B TO LEASE

DESCRIPTION OF PROJECT



4224 Campus Point Court
Regulus Therapeutics, Inc.
November 2020

EXHIBIT C TO LEASE

FUME HOOD LOCATIONS

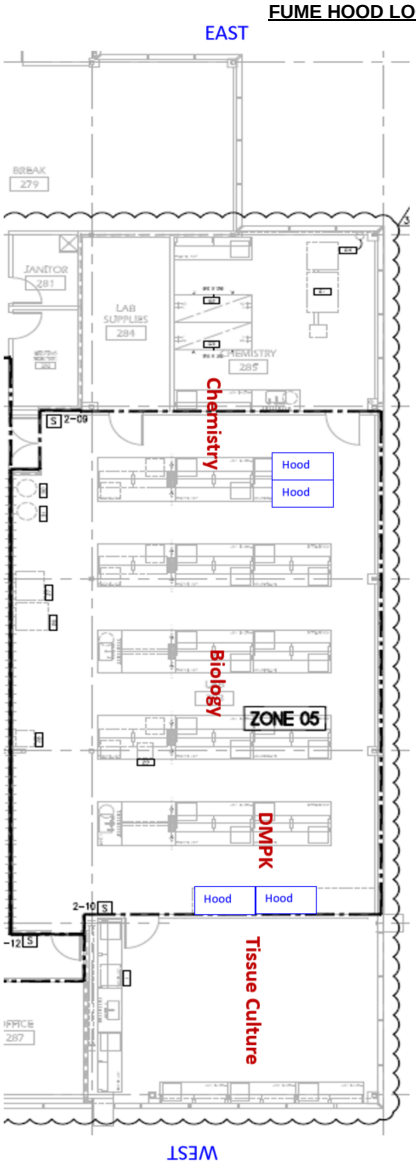


EXHIBIT D TO LEASE

ACKNOWLEDGMENT OF COMMENCEMENT DATE

This **ACKNOWLEDGMENT OF COMMENCEMENT DATE** is made this _____ day of _____, ____, between **ARE-SD REGION NO. 58, LLC**, a Delaware limited liability company ("**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:

REGULUS THERAPEUTICS INC.,
a Delaware corporation

By:__
Its:__

By:__
Its:__

LANDLORD:

ARE-SD REGION NO. 58, LLC,

a Delaware limited liability company

By: ALEXANDRIA REAL ESTATE EQUITIES, L.P.,

a Delaware limited partnership,
managing member

By: ARE-QRS CORP.,

a Maryland corporation,

general partner

By:_____

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.

2. 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.

3. Except for animals assisting the disabled, no animals shall be allowed in the offices, halls, or corridors in the Project.

4. 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.

5. 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.

6. 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.

7. 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.

8. Tenant shall maintain the Premises free from rodents, insects and other pests.

9. 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.

10. 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.

11. Tenant shall give Landlord prompt notice of any defects of which Tenant becomes aware in the water, lawn sprinkler, sewage, gas pipes, electrical lights and fixtures, heating apparatus, or any other service equipment affecting the Premises.

12. 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.

13. 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.

14. No auction, public or private, will be permitted on the Premises or the Project.

15. No awnings shall be placed over the windows in the Premises except with the prior written consent of Landlord.

16. 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 gaming devices shall be operated in the Premises.

17. 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.

18. Tenant assumes full responsibility for protecting the Premises from theft, robbery and pilferage.

19. 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.

20. Tenant shall cause any vendors and other service providers 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 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.

21. Intentionally Deleted.

22. 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.

23. 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.

24. 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.

25. 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.

26. Landlord reserves the right to implement additional rules and regulations relating to access to the Premises, the Building and/or the Project (including, without limitation, the Project Amenities) which are intended to promote and protect health and physical well-being and/or intended to limit the spread of Infectious Conditions.

EXHIBIT F TO LEASE

TENANT'S PERSONAL PROPERTY

None.

EXHIBIT G TO LEASE

MAINTENANCE OBLIGATIONS

Maintenance Responsibilities	Confidential Tenant	ARE	Shared
Internal UPS units | lighting			
Internal Janitorial			
Domestic backflow preventor certification - Industrial			
Domestic backflow preventor certification - Fire			
Elevators			
Elevator Phone Lines			
Fire Sprinkler System*			
Fire Alarm System (and phone lines)			
Building HVAC[1]			
Smoke Fire Dampers			
Plumbing[2]			
Security[2]			
Access Controls			
CCTV			
I/R Testing of electrical systems[3]			
Building Management System and Controls			
Monthly and Annual Generator Testing[4]			
Type 2 Fuel Oil: Delivery			
Heating Hot Water			
Water Treatment			
External landscaping			
BMS for central plant, hot water and BTU Meters			
Pest Control - Exterior			
Pest Control - Interior			
External Parking lot sweeping, painting, maintenance			
External Project Security			
Parking Lot Lighting			
Outside lights and inverters			
Storm Drain Maintenance			
Roof: Annual Inspections			
Fire Extinguishers[2]			

Notes

1 Exhaust Fans, Chiller, Fan Coils, AHU

2 Tenant responsible for interior premises

3 Coordinated

4 Coordinated

EXHIBIT H TO LEASE

CONTROL AREAS

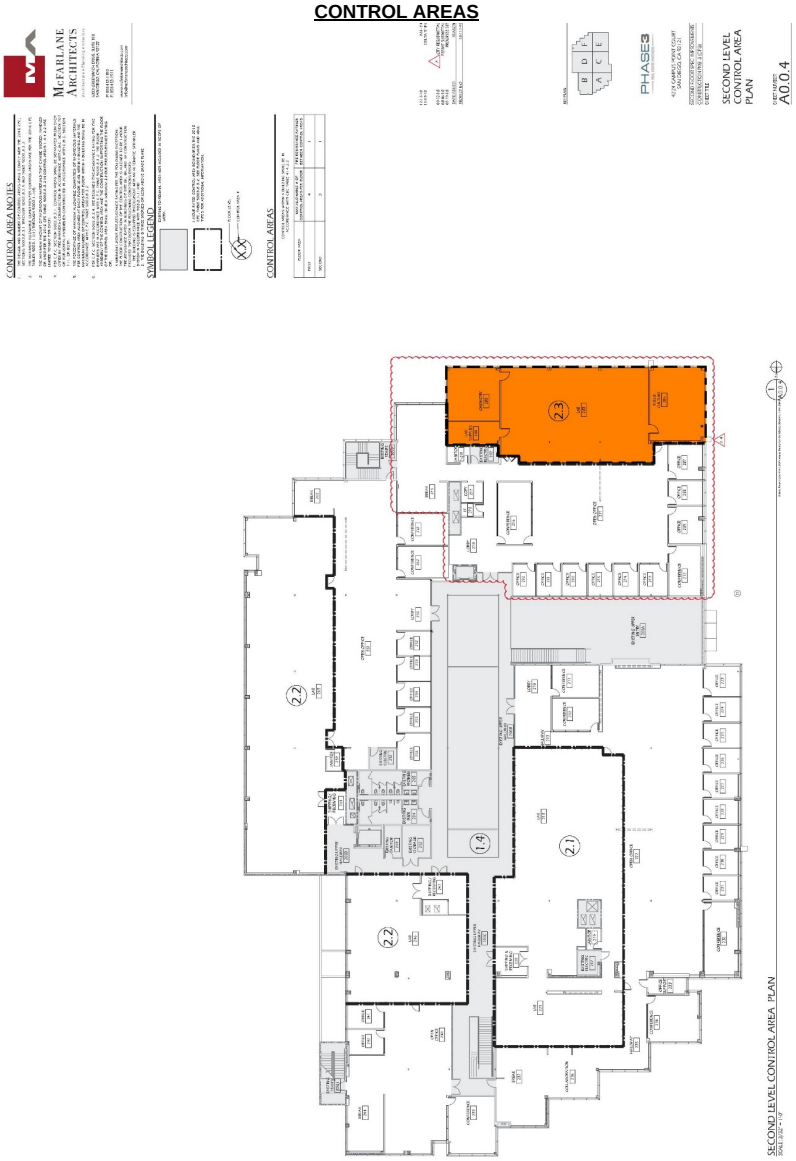
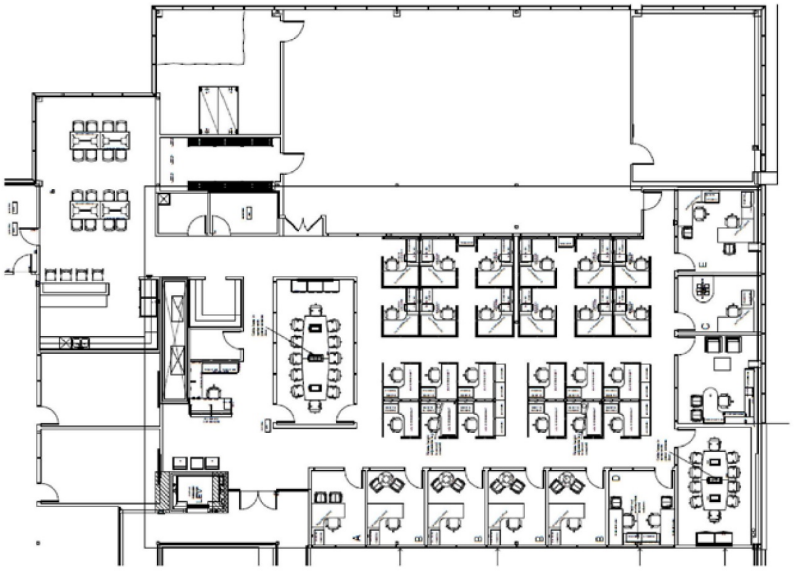
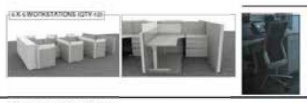
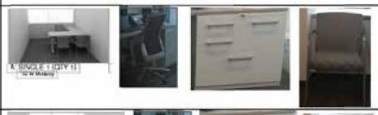


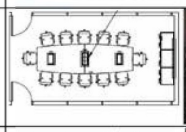
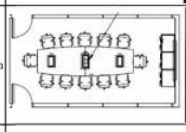
EXHIBIT I TO LEASE

LANDLORD'S FF&E



4224 Campus Point Court
Regulus Therapeutics, Inc.
November 2020

6 x 6 Workstations		Refer to Attached Design Playout Includes: (1) L-Shaped Desk (1) File cabinet (1) Desk Chair	12
6 x 8 Workstations		Refer to Attached Design Playout Includes: (1) L-Shaped Desk (1) Rolling locking file cabinet (1) File cabinet (1) Desk Chair	12
Private Office A		Refer to Attached Design Playout Includes: (1) L-Shaped Desk (1) Desk Chair (1) File Cabinet (2) Standard chair	1
Private Office B		Refer to Attached Design Playout Includes: (1) L-Shaped Desk (1) Desk Chair (1) File Cabinet (2) Standard chair (1) Round table	4
Private Office C		Refer to Attached Design Playout Includes: (1) L-Shaped Desk (1) Desk Chair (1) File Cabinet (3) Bar Height Stools (1) Bar Top U-Shape table	1
Private Office D		Refer to Attached Design Playout Includes: (2) Desk (2) Desk Chairs (2) Standard Chairs (2) File cabinet	1
Private Office E		Refer to Attached Design Playout Includes: (2) L-Shaped Desk (2) Desk Chair (2) File Cabinet (2) Standard chair	1
Lobby		Refer to Attached Design Playout Includes: (1) Desk (1) Desk Chair (2) Standard Chairs (2) File Cabinets (1) End Table	1
CEO Office		Refer to Attached Design Playout Includes: (1) Executive Desk (1) Desk Hutch (2) Standard Chairs (1) End Table (2) Leather Chairs (1) File cabinet	2

Cafeteria	 	Refer to Attached Design Playout Includes: (4) Cafeteria Tables (16) Cafeteria Chairs (4) Bar top Chairs	1
Large Conference Room	  	Refer to Attached Design Playout Includes: (1) Large Conference Table (12) Conference Room Chairs (3) File Cabinets	
Medium Conference Room	  	Refer to Attached Design Playout Includes: (1) Medium Conference Table (10) Conference Room Chairs (2) File Cabinets	
Refrigerator unit			1

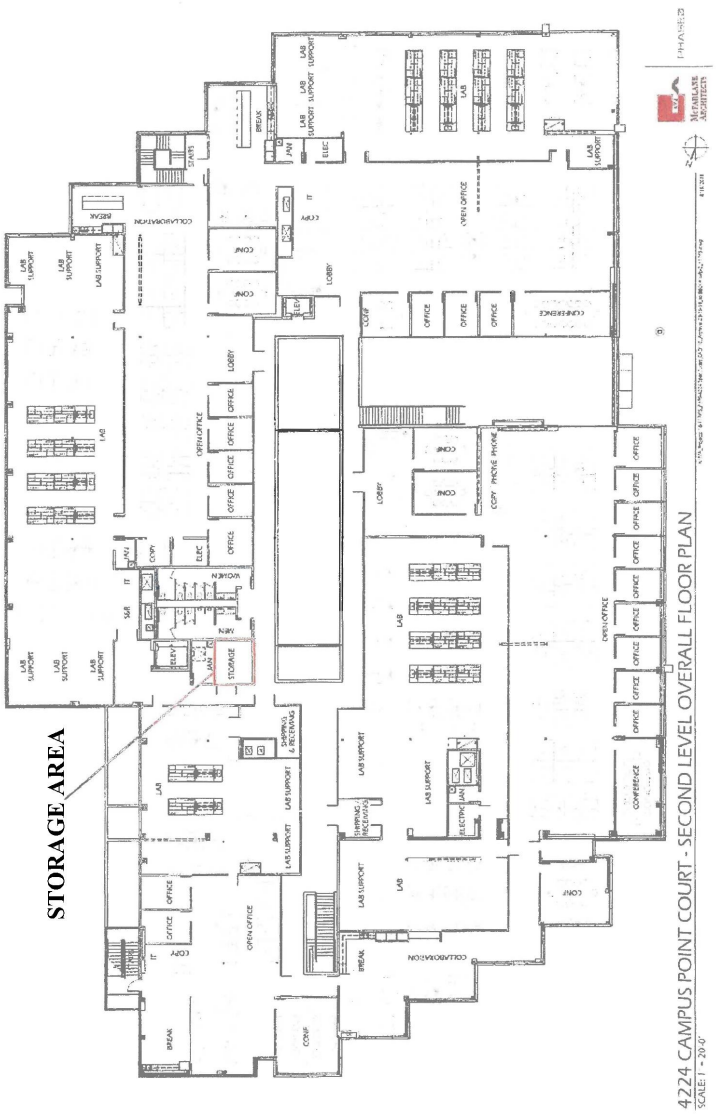
Totals

Item	Quantities
L-Shape Desk	32
Desk	3
Executive Desk	1
File Cabinet	37
Locking File Cabinet	12
Desk Chair	36
Standard Chair	18
Round Table	4
Bar Top U-Shape table	1
Large File Cabinets	10
Office Bar Stool	3
Cafeteria Table	4
Cafeteria Chairs	16
Cafeteria Bar Top Chair	4
Medium Conference Table	1
Large Conference Table	1
Conference Room Chair	22
Large Refrigerator	1

739123072.6

EXHIBIT J TO LEASE

STORAGE AREA



ASSIGNMENT AND ASSUMPTION OF LEASE

THIS ASSIGNMENT AND ASSUMPTION OF LEASE (this "**Assignment**") is made as of the Execution Date (defined below) by and between **REGULUS THERAPEUTICS INC.**, a Delaware corporation ("**Assignor**"), and **TURNING POINT THERAPEUTICS, INC.**, a Delaware corporation ("**Assignee**").

RECITALS

A. Pursuant to that certain Lease Agreement dated June 19, 2019 (as amended, the "**Lease**"), **ARE-SD REGION NO. 44, LLC**, a Delaware limited liability company ("**Landlord**") leases to Assignor those certain premises commonly known as Suite 225, containing approximately 8,727 rentable square feet (the "**Premises**"), in that certain building located at 10628 Science Center Drive, San Diego, California (the "**Building**"). The term of the Lease expires on December 31, 2021 (the "**Expiration Date**").

B. Assignor desires to assign all of Assignor's right, title, and interest as Tenant under the Lease to Assignee on the terms and conditions contained herein.

C. Assignee desires to assume all of Assignor's right, title, and interest as Tenant under the Lease, and Tenant's obligations under said Lease, from and after the Delivery Date (defined below), on the terms and conditions contained herein.

NOW THEREFORE, in consideration of the mutual covenants and agreements set forth herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. Definitions; Representations. The foregoing recitals are hereby made a part of this Assignment. Capitalized terms used but not defined in this Assignment shall have the meaning given thereto in the Lease, a copy of which is attached hereto as Exhibit A. Assignor hereby represents and warrants to Assignee that: (a) the copy of the Lease attached hereto as Exhibit A is accurate and complete; (b) the Lease has not been terminated or modified by amendment, letter agreement, course of performance or otherwise; (c) the Lease has not been assigned nor has any portion of the Premises been sublet to any other party; (d) to Assignor's knowledge, Assignor is not in default of the Lease; (e) to Assignor's knowledge, Landlord is not in default of the Lease, and (f) subject to Section 4 below, Assignor has the power and authority and has received all consents necessary to enter into, be bound by and perform under this Assignment. Assignee hereby represents and warrants to Assignor that it has the power and authority to enter into, be bound by and perform under this Assignment. Each of the foregoing representations and warranties by Assignor and Assignee shall be deemed remade on the Delivery Date.

2. Assignment of Lease. Subject to the conditions set forth herein, effective as of the Delivery Date, Assignor hereby irrevocably and unconditionally grants, assigns, transfers, conveys and delivers to Assignee all of its right, title and interest in the Lease. As used herein, the term "**Delivery Date**" shall mean the date that is five (5) business days following the date that ARE-SD Region No. 58, LLC, a Delaware limited liability company (the "**New Premises Landlord**"), delivers to Assignor the premises located at 4224 Campus Point Drive, Suite 210, San Diego,

California (the "**New Premises**") in the condition required under that certain lease agreement (the "**New Lease**") to be entered into between Assignor and the New Landlord (such date, the "**New Lease Delivery Date**").

3. Assumption of Lease. Subject to the conditions set forth herein, Assignee hereby accepts such assignment of the Lease from Assignor and expressly assumes and agrees, as of the Delivery Date, (a) to make all payments first accruing on and after the Delivery Date under the Lease; (b) to be fully bound as tenant under the Lease; and (c) to observe, keep and faithfully perform all other terms, covenants, obligations, stipulations and agreements as set forth in the Lease to be made, observed and kept and performed by the "Tenant" under the Lease as therein provided.

4. Assignment Contingent; Security Deposit; Preservation.

(a) Notwithstanding anything to the contrary contained in this Assignment, Assignor and Assignee expressly acknowledge and agree that:

(i) this Assignment is subject to the prior written consent of Landlord (the "**Landlord Consent**"), which consent shall be in a form reasonably acceptable to all parties and shall, without limitation, include (A) a full release of Assignor from all liability arising under the Lease from and after the Delivery Date, and (B) a waiver by Landlord to any right to share in the Assignment Consideration. Assignor hereby disclaims any representation or warranty, whether express or implied, to Assignee that Assignor will obtain the consent of Landlord to this Assignment, but Assignor shall use commercially reasonable efforts to obtain the Landlord Consent from Landlord, and Assignee agrees to cooperate in all reasonable respects in connection therewith. Assignee agrees to promptly provide any financial or other information requested by Landlord pursuant to the Lease. If for any reason whatsoever the Landlord Consent is not executed on or before the date that is sixty (60) days after the Execution Date, time being of the essence, then, unless otherwise agreed to by the parties in writing, this Assignment shall terminate, void ab initio, and Assignor and Assignee shall enter into a sublease agreement for the Premises on a form mutually agreed to by the parties, the effectiveness of which will likewise be subject to the prior written consent of Landlord. Assignor shall pay any and all amounts due under the Lease to Landlord in connection with this Assignment.

(ii) the effectiveness of this Assignment shall be subject to (A) Assignor entering into the New Lease on terms and conditions acceptable to Assignor, in Assignor's sole and absolute discretion, and (B) the New Lease Delivery Date occurring within one hundred fifty three (153) days following the execution of the New Lease. Assignor shall give Assignee prompt written notice of the full execution of the New Lease and at least thirty (30) days advance written notice of the New Lease Delivery Date. In the event that condition (A) above is not satisfied within sixty (60) days after the Execution Date, time being of the essence, then, unless otherwise agreed to by the parties in writing, Assignor or Assignee shall have the right to terminate this Assignment upon delivery of written notice to the other party. In the event that condition (B) above is not satisfied, (1) Assignee shall

have the right to terminate this Assignment upon delivery of written notice to Assignor, or (B) Assignor shall have the right to terminate this Assignment upon delivery of written notice to Assignee, but only if Assignor has also delivered to New Premises Landlord a notice of termination of the New Lease; *provided, however*, if either party does not elect to terminate this Assignment under such condition (B) within nine (9) business days of the lapse of such one hundred fifty three (153) day period, such right to terminate this Assignment due to the failure of condition (B) to be met shall be waived. Assignor shall have no liability whatsoever to Assignee relating to or arising from Assignor's inability or failure to cause this condition to be satisfied.

(b) Assignor represents and warrants that Landlord holds a security deposit in the amount of $34,000.00 (the "**Security Deposit**"). Assignee agrees, with Landlord's Consent, to replace such Security Deposit on the Delivery Date.

(c) Assignor covenants that (i) it will not terminate the Lease, (ii) it will not amend or modify the Lease in any manner without the prior written consent of Assignee, which may be given or withheld in Assignee's sole and absolute discretion, and (iii) it will not fail to perform, prior to the Delivery Date, any obligation under the Lease that would result in a default or termination thereof.

5. Delivery of Premises. Subject to obtaining Landlord's Consent, Assignor shall vacate the Premises and deliver the same to Assignee on the Delivery Date. If Assignor cannot deliver the Premises to Assignee on the Delivery Date in the condition required by this Section 5, then the Delivery Date shall be delayed until such time as the Premises are so delivered; provided, however, if the Delivery Date has not occurred within fifteen (15) business days following delivery by the New Landlord of the New Premises to Assignor, then Assignee shall have the right, upon written notice to Assignor, to terminate this Assignment. Assignor shall deliver the Premises to Assignee (a) in their as-is condition, with the lab areas of the Premises decommissioned in accordance with Section 28 of the Lease, and (b) with all of the furniture, fixtures, and equipment in the Premises identified on Exhibit B attached hereto and made a part hereof left therein (the "**FF&E**"). Any furniture, fixtures, and equipment not identified on Exhibit B shall be removed from the Premises by Assignor on or before the Delivery Date. All of the remaining FF&E shall be conveyed to Assignor on the Delivery Date, pursuant to that certain Bill of Sale dated as of the date hereof, attached hereto as Exhibit C.

6. Rent Payments. Commencing on the Delivery Date, Assignee shall pay all Rent under the Lease, subject to and in accordance with the terms of the Lease. Assignor shall continue to pay all Rent due or accruing under the Lease up to the day prior to the Delivery Date.

7. Indemnification.

(a) Assignor hereby agrees to indemnify Assignee against and hold Assignee harmless from any and all cost, liability, loss, damage or expense (including, without limitation, attorneys' fees, charges and expenses in the enforcement of this indemnity), arising out of or relating to events occurring before the Delivery Date and arising out of Assignor's rights and obligations as "Tenant"

under the Lease, Assignor's breach of the Lease or Assignor's use and occupancy of the Premises, and/or this Assignment.

(b) Assignee hereby agrees to indemnify Assignor against and hold Assignor harmless from any and all cost, liability, loss, damage or expense (including, without limitation, attorneys' fees, charges and expenses in the enforcement of this indemnity), arising out of or relating to events occurring (or alleged to have occurred) on and after the Delivery Date and arising out of Assignee's rights and obligations as "Tenant" under the Lease, Assignee's breach of the Lease, Assignee's use and occupancy of the Premises, and/or this Assignment.

(c) The indemnities contained in this Section 7 shall survive the Delivery Date and the termination of this Assignment.

8. Right to Cure. Within five (5) days after receipt, each party shall deliver to the other party copies of any notices of default given or received by such party with respect to the Lease; provided, however, that a copy of any notice of default for non-payment shall be provided immediately. If Landlord agrees to release Assignor from liability under the Lease from and after the Delivery Date, then no such notices shall be required to be given to Assignor.

(a) In the event Assignee defaults under the terms and conditions of this Assignment or the terms and conditions of the Lease, and if Assignor remains liable therefor, Assignor shall have the right (but not the obligation) to, without waiving or releasing Assignee from any obligations thereof, do whatever Assignee is obligated to do under the terms of the Lease and this Assignment (including accessing the Premises, during reasonable hours, upon reasonable prior notice, to complete the same). Assignee agrees to reimburse Assignor on demand for any reasonable out of pocket payment made by Assignor to cure such default including all costs or expenses incurred by Assignor in effecting such compliance together with an amount equal to six percent (6%) thereof for Assignor's overhead.

(b) In the event Assignor defaults under the terms and conditions of this Assignment or the terms and conditions of the Lease, Assignee shall have the right (but not the obligation) to, without waiving or releasing Assignor from any obligations thereof, do whatever Assignor is obligated to do under the terms of the Lease and this Assignment (including accessing the Premises, during reasonable hours, upon reasonable prior notice, to complete the same). Assignor agrees to reimburse Assignee on demand for any reasonable out of pocket payment made by Assignee to cure such default including all costs or expenses incurred by Assignee in effecting such compliance together with an amount equal to six percent (6%) thereof for Assignee's overhead.

9. Consideration. In consideration of the assignment set forth herein, Assignee shall pay to the Assignor, upon the Delivery Date, the amount of Sixty Thousand and No/100 Dollars ($60,000.00) (the "**Assignment Consideration**"). Any portion of the foregoing consideration due to Landlord pursuant to the terms of the Lease shall be paid by Assignor.

10. Notices. All notices, requests, demands, instructions and other communication required or permitted under this Assignment ("**Notices**") shall be in writing and shall be given by any of the following means: (a) certified or registered mail, postage prepaid, return receipt

requested; (b) commercial overnight courier or similar personal service that guarantees next day delivery and provides a receipt, or (c) hand delivery, and any such Notice shall be addressed as follows:

Assignor: Prior to the Delivery Date:

Regulus Therapeutics Inc.
10628 Science Center Drive, Ste. 225
San Diego, CA 92121
Attention: Lease Administrator

After the Delivery Date:

Regulus Therapeutics Inc.
4224 Campus Point Court, Suite 210
San Diego, CA 92121
Lease Administrator

Assignee: Turning Point Therapeutics, Inc.
10628 Science Center Drive, Ste. 200
San Diego, CA 92121
Attention: CFO

with a copy to:

Turning Point Therapeutics, Inc.
10628 Science Center Drive, Ste. 200
San Diego, CA 92121
Attention: Legal Department

Notices delivered personally or by certified mail, return receipt requested, will be effective immediately upon receipt if delivery is confirmed by a delivery receipt (or refusal of delivery or receipt); notices sent by overnight delivery will be effective on delivery if delivery is confirmed by the delivery service. Either party to this Assignment may change the address for Notice purposes to such other address as is specified by written notice delivered in accordance with the provisions of this Section. Such notice of change of address shall be effective ten (10) days after being delivered in conformance with the requirements for delivery under this Section.

11. Real Estate Commissions. Each party represents that it has not authorized any broker or finder to act on its behalf in connection herewith, and that it has not dealt with any other broker or finder purporting to act on behalf of any other party. Each party agrees to indemnify and hold harmless the other from and against any and all claims, losses, damages, costs or expenses of any kind or character arising out of or resulting from any agreement, arrangement or understanding alleged to have been made by such party or on its behalf with any broker or finder in connection with this Assignment. The indemnities contained in this Section shall survive the termination of this Assignment.

12. Severability. If any term or provision of this Assignment or the application thereof to any person or circumstances shall be to any extent invalid and unenforceable, the remainder of this Assignment, or the application of such term or provision to persons or circumstances other than those as to which it is invalid or unenforceable, shall not be affected thereby.

13. Entire Agreement. This Assignment sets forth the entire agreement between the parties relating to the subject matter hereof and no amendment or modification of this Assignment shall be binding or valid unless expressed in a writing executed by both parties hereto.

14. Captions. The captions, headings and section numbers contained in this Assignment are for convenience of reference only and shall in no way be deemed to define, modify, limit, enlarge or affect the meaning of the terms and conditions of this Assignment.

15. Binding Effect. All of the covenants, agreements, terms and conditions to be observed and performed by the parties hereto shall inure to the benefit of, be applicable to and binding upon their respective heirs, personal representatives, successors and assigns.

16. Governing Law. This Assignment shall be governed by and construed in accordance with the laws of the State in which the Premises are located without giving effect to the conflict of laws, rules or choice of laws or rules thereof.

17. Counterparts. This Assignment may be executed in counterparts, including both counterparts that are executed on paper and counterparts that are in the form of electronic records and are executed electronically. An electronic signature means any electronic sound, symbol or process attached to or logically associated with a record and executed and adopted by a party with the intent to sign such record, including facsimile or e-mail electronic signatures. All executed counterparts shall constitute one agreement, and each counterpart shall be deemed an original. The parties hereby acknowledge and agree that electronic records and electronic signatures, as well as facsimile signatures, may be used in connection with the execution of this Assignment and electronic signatures, facsimile signatures or signatures transmitted by electronic mail in so-called pdf format shall be legal and binding and shall have the same full force and effect as if a paper original of this Assignment had been delivered had been signed using a handwritten signature. Assignor and Assignee (a) agree that an electronic signature, whether digital or encrypted, of a party to this Assignment is intended to authenticate this writing and to have the same force and effect as a manual signature, (b) intended to be bound by the signatures (whether original, faxed or electronic) on any document sent or delivered by facsimile or , electronic mail, or other electronic means, (c) are aware that the other party will reply on such signatures, and (d) hereby waive any defenses to the enforcement of the terms of this Assignment based on the foregoing forms of signature. If this Assignment has been executed by electronic signature, all parties executing this document are expressly consenting under the Electronic Signatures in Global and National Commerce Act ("**E-SIGN**") and Uniform Electronic Transactions Act ("**UETA**"), that a signature by fax, email or other electronic means shall constitute an Electronic Signature to an Electronic Record under both E-SIGN and UETA with respect to this specific transaction.

18. Time of the Essence. Time is of the essence with respect to each term and provision of this Assignment.

19. Construction. No provision of this Assignment shall be construed by any judicial authority against either Assignor or Assignee by reason of any such party being deemed to have drafted or structured such provision.

20. Attorneys' Fees. Except as otherwise expressly set forth in this Assignment, each party shall pay its own costs and expenses incurred in connection with this Assignment and such party's performance under this Assignment; provided that, if any party institutes an action or proceeding under this Assignment, the prevailing party shall be entitled to recover from the other party the prevailing party's reasonable costs and expenses in such action or proceeding, including reasonable attorneys' fees and court costs (but not to exceed the actual fees and costs incurred), at trial and at all appellate levels and post judgment proceedings (regardless of whether the applicable proceeding, demand, claim, action, cause of action, suit or appeal is voluntarily withdrawn or dismissed).

21. No Waiver. No waiver of any term, covenant or condition of this Assignment shall be binding unless executed in writing by the party entitled to the benefit of such term, covenant or condition. The waiver of any breach or default of any term, covenant or condition contained in this Assignment shall not be deemed to be a waiver of any preceding or subsequent breach or default of such term, covenant or condition or any other term, covenant or condition of this Assignment. Except as expressly provided in this Assignment, the rights and remedies under this Assignment are in addition to and not exclusive of any other rights, remedies, powers and privileges under this Assignment or available at law, in equity or otherwise. No failure to exercise or delay in exercising any right, remedy, power or privilege shall operate as a waiver thereof, and no single or partial exercise of any right, remedy, power or privilege shall preclude the exercise of any other right, remedy, power or privilege.

[Signature Page Follows]

IN WITNESS WHEREOF, this Assignment and Assumption of Lease has been executed by the parties as of the date last set forth below (the "**Execution Date**").

ASSIGNOR:

REGULUS THERAPEUTICS INC.,
a Delaware corporation

By: /s/ Joseph P. Hagan
Name: Joseph P. Hagan
Its: President and CEO
Date: February 11, 2021

ASSIGNEE:

TURNING POINT THERAPEUTICS, INC.,
a Delaware corporation

By: /s/ Yi Larson
Name: Yi Larson
Its: EVP & CFO
Date: February 11, 2021

EXHIBIT A

LEASE

[To be attached.]

LEASE AGREEMENT

THIS LEASE AGREEMENT (this "**Lease**") is made this 19th day of June, 2019, between **ARE-SD REGION NO. 44, LLC**, a Delaware limited liability company ("**Landlord**"), and **REGULUS THERAPEUTICS INC.**, a Delaware corporation ("**Tenant**").

Building: 10628 Science Center Drive, San Diego, California

Premises: That certain portion of the Building known as Suite 225, containing approximately 8,727 rentable square feet, as determined by Landlord, 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: See Schedule of Base Rent attached hereto as **Exhibit C**

Rentable Area of Premises: 8,727 sq. ft.

Rentable Area of Building: 91,448 sq. ft.

Rentable Area of Project: 295,269 sq. ft.

Tenant's Share of Operating Expenses of Building: 9.54%

Building's Share of Project: 30.97%

Security Deposit: $34,000

Target Commencement Date: July 1, 2019

Rent Adjustment Percentage: 3%

Base Term: Beginning on the Commencement Date and ending on December 31, 2021

Permitted Use: Research and development laboratory, manufacturing, and related office and other related uses consistent with the character of the Project and otherwise in compliance with the provisions of Section 7 hereof.

Address for Rent Payment:
Alexandria Real Estate Equities, Inc.
Dept. LA 23447
Pasadena, CA 91185-3447

Landlord's Notice Address:
385 E. Colorado Boulevard, Suite 299
Pasadena, CA 91101
Attention: Corporate Secretary

Tenant's Notice Address:
10628 Science Center Drive, Suite 225
San Diego, California 92121
Attention: Lease Administrator

The following Exhibits and Addenda are attached hereto and incorporated herein by this reference:

[X] **EXHIBIT A** - PREMISES DESCRIPTION [X] **EXHIBIT B** - DESCRIPTION OF PROJECT
[X] **EXHIBIT C** - BASE RENT SCHEDULE [X] **EXHIBIT D** - COMMENCEMENT DATE
[X] **EXHIBIT E** - RULES AND REGULATIONS [X] **EXHIBIT F** - TENANT'S PERSONAL PROPERTY
[X] **EXHIBIT G** - MAINTENANCE OBLIGATIONS [X] **EXHIBIT H** - CONTROL ZONES

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**." Landlord reserves the right to modify Common Areas, provided that such modifications do not materially adversely affect Tenant's access to or 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, 365 days a year, 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.

Commencing on the Commencement Date and continuing through the expiration or earlier termination of the Term, Tenant shall have the right to use that certain storage space located in the basement of the Building commonly known as storage unit SL1-003 (the "**Storage Space**"). Tenant's use of the Storage Space is strictly limited to the storage of property of Tenant, and for no other purpose. Tenant shall not store any Hazardous Materials in or around the Storage Space. Tenant's use of the Storage Space shall be subject to all of the terms and conditions of this Lease as though the Storage Space were a part of the Premises, except that Tenant shall not be required to pay Base Rent or Operating Expenses with respect to the Storage Space.

2. **Delivery; Acceptance of Premises; Commencement Date**. Landlord shall use reasonable efforts to deliver exclusive possession of the Premises ("**Delivery**" or "**Deliver**") to Tenant on or before the Target Commencement Date. 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. If Landlord does not Deliver the Premises within 90 days of the Target Commencement Date for any reason other than Force Majeure delays, this Lease may be terminated by Tenant by written notice to the Landlord, and if so terminated by Tenant: (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. If Tenant does not elect to terminate this Lease within 10 business days of the lapse of such 90 day period, such right to terminate this Lease shall be waived and this Lease shall remain in full force and effect.

The "**Commencement Date**" shall be the date Landlord Delivers the Premises to Tenant. The "**Rent Commencement Date**" shall be the date that is 3 months after the Commencement Date. The period commencing on the Commencement Date through the day immediately preceding the Rent Commencement Date may be referred to herein as the "**Abatement Period**." Upon request of Landlord, Tenant shall execute and deliver a written acknowledgment of the Commencement Date, the Rent 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, Tenant's failure to execute and deliver such acknowledgment shall not affect Landlord's rights hereunder. The "**Term**" of this Lease shall be the Base Term, as defined above on the first page of this Lease.

Notwithstanding anything to the contrary contained in this Lease, Tenant and Landlord acknowledge and agree that the effectiveness of this Lease shall be subject to the following condition precedent ("**Condition Precedent**") having been satisfied: Landlord shall have entered into a lease termination agreement with respect to the Premises ("**Termination Agreement**") and a new lease ("**New Lease**") for the space at the Project being surrendered by Tenant with Turning Point Therapeutics, Inc., a Delaware corporation ("**Turning Point**"), the existing tenant of the Premises, which Termination Agreement and New Lease shall be on terms and conditions acceptable to Landlord, in Landlord's sole and absolute discretion. In the event that the Condition Precedent is not satisfied, Landlord shall have the right to terminate this Lease upon delivery of written notice to Tenant. Landlord shall have no liability whatsoever to Tenant relating to or arising from Landlord's inability or failure to cause the Condition Precedent to be satisfied.

Except as otherwise expressly set forth in this Lease: (i) Tenant shall accept the Premises in their condition as of the Commencement Date; (ii) Landlord shall have no obligation for any defects in the Premises; and (iii) Tenant's taking possession of the Premises shall be conclusive evidence that Tenant accepts the Premises. Tenant shall have no right to occupy the Premises prior to the Commencement Date pursuant to this Lease, however, Landlord hereby consents to Tenant accessing the Premises prior to the Commencement Date pursuant to a separate written agreement between Tenant and Turning Point; provided that Tenant may not make any alterations to the Premises prior to the Commencement Date without Landlord's prior written consent, which consent shall not be unreasonably withheld, conditioned or delayed. Nothing contained in this paragraph shall limit Landlord's maintenance obligations under Section 13.

Tenant agrees and acknowledges that, except as otherwise 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**.

3.1 **Base Rent**. Base Rent for the month in which the Rent Commencement occurs shall be due and payable on delivery of an executed copy of this Lease to Landlord. Tenant shall pay to Landlord in advance, without demand, abatement, deduction or set-off, monthly installments of Base Rent on or before the first day of each calendar month during the Term hereof after the Rent Commencement Date, 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. 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 in this Lease.

3.2 **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. Base Rent shall be increased during the Base Term pursuant to the rent schedule set forth on **Exhibit C**.

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 of 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.

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 Building (including the

Building's Share of all costs and expenses of any kind or description incurred or accrued by Landlord with respect to the Project which are not specific to the Building or any other building located in the Project) (including, without duplication, (w) Taxes (as defined in Section 9), (x) the cost of capital repairs, improvements and replacements but only to the extent (i) required in order to comply with Legal Requirements; (ii) intended to reduce Operating Expenses, (iii) intended to maintain or improve the utility, efficiency or capacity of the Building, any Building Systems or the Common Areas of the Project, and/or (iv) triggered by Tenant's particular use of the Premises or Tenant's Alterations (collectively, the "**Permitted Capital Expenditures**"), all of which shall be amortized over the lesser of 10 years and the useful life of such capital items, (y) the cost (including, without limitation, any subsidies which Landlord may provide in connection with the Project Amenities) of the common area amenities (the "**Project Amenities**") now or hereafter located at the Project which Project Amenities may include, without limitation, the Common Area fitness center, cafe, conference center, bocce ball court, barbeque pits and ping pong, and (z) the costs of Landlord's third party property manager (not to exceed 3% of Base Rent) or, if there is no third party property manager, administration rent in the amount of 3% of Base Rent (provided that during the Abatement Period, Tenant shall nonetheless be required to pay administration rent each month equal to the amount of the administration rent that Tenant would have been required to pay in the absence of there being an Abatement Period)), excluding only:

5.1 the original design and/or construction costs of the Building or the Project, the renovation of the Building or the Project prior to the date of this Lease, or costs of correcting defects in such original construction or renovation of the Building or the Project;

5.2 the design and/or construction costs of the Project Amenities;

5.3 capital expenditures other than the Permitted Capital Expenditures;

5.4 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 and all payments of base rent (but not taxes or operating expenses) under any ground lease or other underlying lease of all or any portion of the Project;

5.5 depreciation of the Project (except for capital improvements amortized as required pursuant to this Section 5, the cost of which are includable in Operating Expenses);

5.6 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, construction allowances and signage costs for tenants;

5.7 legal and other expenses incurred in the negotiation or enforcement of leases;

5.8 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;

5.9 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;

5.10 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;

5.11 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;

5.12 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;

5.13 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);

5.14 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, Utilities or other payments required to be made by Landlord hereunder before delinquency;

5.15 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;

5.16 costs of Landlord's charitable or political contributions, or of fine art maintained at the Project;

5.17 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;

5.18 costs incurred in the sale or refinancing of the Project;

5.19 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;

5.20 any bad debt loss, rent loss or reserves for bad debts or rent loss;

5.21 any costs incurred to remove, study, test or remediate Hazardous Materials in or about the Building or the Project for which Tenant is not responsible under Section 30 hereof;

5.22 any expenses otherwise includable within Operating Expenses to the extent actually reimbursed by insurance (or, if Landlord fails to maintain the insurance required to be carried by Landlord pursuant to Section 17, would have been reimbursed by insurance required to be carried by Landlord pursuant to Section 17);

5.23 reserves;

5.24 costs (excluding the Amenities Fee payable pursuant to Section 41 below) relating to the Amenities (as such term is defined in Section 41); provided, however that Tenant shall be responsible for the cost of any ancillary services or items payable by Tenant in connection with its use the Amenities;

5.25 costs occasioned by condemnation;

5.26 long term rentals for equipment ordinarily considered to be of a capital nature if such equipment is customarily leased in the operation of first class laboratory/office buildings in the San Diego metropolitan area; and

5.27 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.

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 or, at Tenant's election, Landlord shall provide a credit in the amount of the excess against the Base Rent next coming due under this Lease, 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 90 days after Tenant's receipt thereof, shall contest any item therein by giving written notice to Landlord, specifying each item contested and the reason therefor. If, during such 90 day period, Tenant reasonably and in good faith questions or contests 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 an independent public accounting firm selected by Tenant from among the 4 largest in the United States, working pursuant to a fee arrangement other than a contingent fee (at Tenant's sole cost and expense) and approved by Landlord (which approval shall not be unreasonably withheld, conditioned or delayed), audit and/or review the Expense Information for the year in question (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 Building 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 Building 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. 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**. Tenant shall deposit with Landlord, within 5 business days after the mutual execution and delivery of this Lease by the parties, 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 Security Deposit shall be in the form of an unconditional and irrevocable letter of credit (the "**Letter of Credit**"): (i) in form and substance reasonably 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 reasonably satisfactory to Landlord, and (v) redeemable by presentation of a sight draft in the State of California. 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, which funds shall be returned to Tenant within a reasonable period following Tenant's delivery to Landlord of a substitute Letter of Credit. 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 under California Civil Code Section 1951.2, 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 10 days following written demand therefor from Landlord 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, including, without limitation, California Civil Code Section 1950.7, 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 45 days after the expiration or earlier termination 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, in writing, 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. The Security Deposit is not an advance rental deposit or a measure of Landlord's damages in case of Tenant's default. 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 within 5 business days' written demand from Landlord 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 weighing 500 pounds or more 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. 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 existing capacity of the Project as proportionately allocated to the Premises based upon Tenant's Share as usually furnished for the Permitted Use.

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) and 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. 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 particular 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 particular 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 particular 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, at no material cost to Tenant, to reasonably cooperate with Landlord, and to provide such information and/or documentation as Landlord may reasonably request, in connection therewith.

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 termination by Landlord at any time upon at least 5 days' advance written notice to Tenant, (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 (1) for the first 30 days of such holdover, 125% of the Base Rent in effect during the last 30 days of the Term plus Operating Expenses, and (2) thereafter, 150% of Base Rent in effect during the last 30 days of the Term plus Operating Expenses, and (B) if such holdover continues in excess of 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**. 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. Taxes shall not include any net income, excess profits, franchise, gift, capital levy, capital stock, inheritance, succession, inheritance or documentary transfer taxes imposed on Landlord except to the extent such taxes are in substitution for any Taxes payable hereunder, nor shall Taxes include any fees, penalties or interest payable on account of the late payment of any Taxes (except to the extent such late payment is the result of the late payment of Additional Rent by Tenant). 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 reasonable 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 within 10 days following written demand therefor from Landlord.

10. **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 in common with other tenants of the Project to use 2.5 parking spaces per 1,000 rentable square feet of the Premises, which parking spaces shall be located in those areas of the subterranean parking garage located under the Building and the surface parking areas of the Project designated for non-reserved parking, subject in each case to Landlord's rules and regulations. Landlord shall not be responsible for enforcing Tenant's parking rights against any third parties, including other tenants of the Project.

11. **Utilities, Services**. Landlord shall provide, subject to the terms of this Section 11, water, electricity, HVAC, light, power, sewer, and other utilities (including gas and fire sprinklers to the extent the Project is plumbed for such services), and, with respect to the Common Areas, 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. Landlord may cause, at Landlord's expense, any 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 other than Landlord's willful misconduct, shall result in eviction or constructive eviction of Tenant, termination of this Lease or, except as otherwise provided in the immediately following paragraph, the abatement of Rent. Tenant agrees to limit use of water and sewer with respect to Common Areas to normal restroom use. Utilities shall be available to the Premises 24 hours per day, 7 days per week, except in the case of emergencies, as the result of Legal Requirements, the failure of any Utility provider to provide such Utilities, the performance by Landlord or any Utility provider of any installation, maintenance or repairs, or any other temporary interruptions. Tenant shall be responsible for obtaining and paying for its own janitorial services for the Premises.

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 gross 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 generators with not less than the capacity of the emergency generators serving the Building as of the Commencement Date, and (ii) to contract with a third party to maintain the emergency generators as per the manufacturer's standard maintenance guidelines. Except as provided in the immediately preceding sentence, Landlord shall have no obligation to provide Tenant with operational emergency generators or back-up power or to supervise, oversee or confirm that the third party maintaining the emergency generators is maintaining the generators as per the manufacturer's standard guidelines or otherwise. 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 generators when the emergency generators are 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 generators or alternative sources of back-up power. Tenant expressly acknowledges and agrees that Landlord does not guaranty that such emergency generators will be operational at all times or that emergency power will be available to the Premises when needed.

Tenant agrees to provide Landlord with access to Tenant's water and/or energy usage data on a monthly basis, either by providing Tenant's applicable utility login credentials to Landlord's Measurabl 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/or 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 (as defined in Section 13) ("**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, conditioned or delayed. 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 $30,000 (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. Except for Notice-Only Alterations, 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 5% of all charges incurred by Tenant or its contractors or agents in connection with any Alteration to cover Landlord's overhead and expenses for plan review, coordination, scheduling and supervision; provided, however, that no fee shall be charged by Landlord in connection with Notice-Only Alterations. 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 reasonably 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, if the nature of such Alterations required such plans.

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, in which event 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 be paid as administrative rent a fee of $1,000 per occurrence for its time and effort in preparing and negotiating such a 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 (which agreement by Landlord shall not be unreasonably withheld, conditioned or delayed), (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 by Landlord, 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.

13. **Landlord's Repairs**. Landlord shall, at Landlord's sole expense (and not as an Operating Expense), be responsible for capital repairs and replacements of the roof (not including the roof membrane), exterior walls and foundation of the Building ("**Structural Items**") unless the need for such repairs or replacements is caused by Tenant or any Tenant Parties, in which case Tenant shall bear the full cost to repair or replace such Structural Items. Landlord shall, as an Operating Expense, be responsible for the routine maintenance and repair of such Structural Items. Landlord, as an Operating Expense (except to the extent the cost thereof is excluded from Operating Expenses pursuant to Section 5 hereof), shall maintain, repair and replace the roof membrane and all of the exterior, parking and other Common Areas of the Project, including HVAC, electrical, mechanical, plumbing, life safety systems (including fire sprinklers), elevators and all other building systems serving the Premises and other portions of the Project (collectively, "**Building Systems**"), in good 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, at Tenant's sole cost and expense. Landlord reserves the right to temporarily 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 reasonable 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, make a commercially reasonable effort to give Tenant 24 hours advance notice of any planned stoppage of Building Systems services for routine maintenance, repairs, alterations or improvements. Tenant shall promptly give Landlord written notice of any repair required by Landlord pursuant to this Section 13 of which Tenant becomes aware, after which Landlord shall make a commercially reasonable effort to effect such repair within a reasonable period. Landlord shall use reasonable efforts to minimize interference with Tenant's operations in the Premises during such planned stoppages of Building Systems. 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 Section 13 hereof, Tenant, at its expense, shall repair, replace and maintain in good condition all interior 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 as required under this Section 14, Landlord shall give Tenant written notice of such failure. If Tenant fails to commence cure of such failure within 10 days of Landlord's written notice, and thereafter diligently prosecute such cure to completion, Landlord may perform such work and shall be reimbursed by Tenant within 10 days following written 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 of any repair or replacement to any part of the Project that results from damage caused by Tenant or any Tenant Party.

Notwithstanding anything to the contrary contained in this Lease, as of the Commencement Date, the maintenance and repair obligations for the Premises shall be allocated between Landlord and Tenant as set forth on **Exhibit G** attached hereto. The maintenance obligations allocated to Tenant pursuant to **Exhibit G** (the "**Tenant Maintenance Obligations**") shall be performed by Tenant at Tenant's sole cost and expense. The Tenant Maintenance Obligations shall include the procurement and maintenance of contracts, in form and substance reasonably satisfactory to Landlord, with copies to Landlord upon Landlord's written request, for and with contractors reasonably acceptable to Landlord specializing and experienced in the respective Tenant Maintenance Obligations. Notwithstanding anything to the contrary contained herein, the scope of work of any such contracts entered into by Tenant pursuant to this paragraph shall, at a minimum, comply with manufacturer's recommended maintenance procedures for the optimal performance of the applicable equipment. Landlord shall, notwithstanding anything to the contrary contained in this Lease, have no obligation to perform any Tenant Maintenance Obligations. The Tenant Maintenance Obligations shall not include the right or obligation on the part of Tenant to make any structural and/or capital repairs or improvements to the Project, and Landlord shall, during any period that Tenant is responsible for the Tenant Maintenance Obligations, continue, as part of Operating Expenses, to be responsible, as provided in the immediately preceding paragraph, for capital repairs and replacements required to be made to the Project. If Tenant fails to maintain any portion of the Premises for which Tenant is responsible as part of the Tenant Maintenance Obligations in a manner reasonably acceptable to Landlord within the requirements of this Lease, Landlord shall have the right, but not the obligation, to provide Tenant with written notice thereof and to assume the Tenant Maintenance Obligations if Tenant does not cure Tenant's failure within 10 days after receipt of such notice.

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 days after Tenant receives written 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 within the time period set forth above, 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 the 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 gross 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.

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 $2,000,000 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 can substantiate as resulting from Tenant's particular 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 $4,000,000 per occurrence for bodily injury and property damage with respect to the Premises. 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 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"; shall not be cancelable for nonpayment of premium unless 30 days prior written notice shall have been given to Landlord from the insurer; 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). Copies of such policies (if requested by Landlord), or certificates of insurance showing the limits of coverage required hereunder and showing Landlord as an additional insured, along with reasonable evidence of the payment of premiums for the applicable period, shall be delivered to Landlord by Tenant prior to (i) the earlier to occur of (x) the Commencement Date, or (y) the date that Tenant accesses the Premises under this Lease, and (ii) 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, 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 insured casualty, Landlord shall notify Tenant in writing within 45 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 9 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 5 business 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, Landlord may, in its sole and absolute discretion, elect not to proceed with such repair and restoration or Tenant may by written notice to Landlord delivered within 5 business days of the expiration of the Maximum Restoration Period or, if longer, the Restoration Period, elect to terminate this Lease, in which event Landlord and Tenant shall be relieved of their respective obligations hereunder 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 (as defined in Section 34) events or to obtain Hazardous Material Clearances, all repairs or restoration not required to be done by Landlord. 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 (for any reason other than Landlord's failure to maintain the insurance required to be maintained by Landlord pursuant to Section 17). 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, in Tenant's reasonable discretion, 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 the 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:

20.1 **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 3 days of any such notice not more than once 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.

20.2 **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 before the expiration of the current coverage.

20.3 **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.

20.4 **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.

20.5 **Liens**. Tenant shall fail to discharge or otherwise obtain the release of any lien placed upon the Premises in violation of this Lease within 10 days after any such lien is filed against the Premises.

20.6 **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).

20.7 **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.

20.8 **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 such cure shall be completed no later than 60 days from the date of Landlord's notice.

21. **Landlord's Remedies**.

21.1 **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.

21.2 **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 equal to 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.

21.3 **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.

(a) Terminate this Lease, or at Landlord's option, Tenant's right to possession only, in which event Tenant shall immediately surrender the Premises to Landlord, and if Tenant fails to do so, Landlord may, without prejudice to any other remedy which it may have for possession or arrearages in rent, enter upon and take possession of the Premises and expel or remove Tenant and any other person who may be occupying the Premises or any part thereof, without being liable for prosecution or any claim or damages therefor;

(b) Upon any termination of this Lease, whether pursuant to the foregoing Section 21(c)(i) or otherwise, Landlord may recover from Tenant the following:

(i) The worth at the time of award of any unpaid rent which has been earned at the time of such termination; plus

(ii) The worth at the time of award of the amount by which the unpaid rent which would have been earned after termination until the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; plus

(iii) The worth at the time of award of the amount by which the unpaid rent for the balance of the Term after the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; plus

(iv) Any other amount necessary to compensate Landlord for all the detriment proximately caused by Tenant's failure to perform its obligations under this Lease or which in the ordinary course of things would be likely to result therefrom, specifically including, but not limited to, brokerage commissions and advertising expenses incurred, expenses of remodeling the Premises or any portion thereof for a new tenant, whether for the same or a different use, and any special concessions made to obtain a new tenant; and

(v) At Landlord's election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by applicable law.

The term "**rent**" as used in this Section 21 shall be deemed to be and to mean all sums of every nature required to be paid by Tenant pursuant to the terms of this Lease, whether to Landlord or to others. As used in Sections 21(c)(ii)(A) and (B), above, the "**worth at the time of award**" shall be computed by allowing interest at the Default Rate. As used in Section 21(c)(ii)(C) above, the "**worth at the time of award**" shall be computed by discounting such amount at the discount rate of the Federal Reserve Bank of San Francisco at the time of award plus 1%.

(c) Landlord may continue this Lease in effect after Tenant's Default and recover rent as it becomes due (Landlord and Tenant hereby agreeing that Tenant has the right to sublet or assign hereunder, subject only to reasonable limitations). Accordingly, if Landlord does not elect to

terminate this Lease following a Default by Tenant, Landlord may, from time to time, without terminating this Lease, enforce all of its rights and remedies hereunder, including the right to recover all Rent as it becomes due.

(d) Whether or not Landlord elects to terminate this Lease following a Default by Tenant, Landlord shall have the right to terminate any and all subleases, licenses, concessions or other consensual arrangements for possession entered into by Tenant and affecting the Premises or may, in Landlord's sole discretion, succeed to Tenant's interest in such subleases, licenses, concessions or arrangements. Upon Landlord's election to succeed to Tenant's interest in any such subleases, licenses, concessions or arrangements, Tenant shall, as of the date of notice by Landlord of such election, have no further right to or interest in the rent or other consideration receivable thereunder.

(e) 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) hereof, at Tenant's expense.

21.4 **Effect of Exercise**. Exercise by Landlord of any remedies hereunder or otherwise available shall not be deemed to be an acceptance of surrender of the Premises and/or a termination of this Lease by Landlord, it being understood that such surrender and/or termination can be effected only by the express written agreement of Landlord and Tenant. Any law, usage, or custom to the contrary notwithstanding, Landlord shall have the right at all times to enforce the provisions of this Lease in strict accordance with the terms hereof; and the failure of Landlord at any time to enforce its rights under this Lease strictly in accordance with same shall not be construed as having created a custom in any way or manner contrary to the specific terms, provisions, and covenants of this Lease or as having modified the same and shall not be deemed a waiver of Landlord's right to enforce one or more of its rights in connection with any subsequent default. A receipt by Landlord of Rent or other payment with knowledge of the breach of any covenant hereof shall not be deemed a waiver of such breach, and no waiver by Landlord of any provision of this Lease shall be deemed to have been made unless expressed in writing and signed by Landlord. Following a Default by Tenant under this Lease, to the greatest extent permitted by law, Tenant waives the service of notice of Landlord's intention to re-enter, re-take or otherwise obtain possession of the Premises as provided in any statute, or to institute legal proceedings to that end, and also waives all right of redemption in case Tenant shall be dispossessed by a judgment or by warrant of any court or judge. Any reletting of the Premises or any portion thereof shall be on such terms and conditions as Landlord in its sole discretion may determine. Landlord shall not be liable for, nor shall Tenant's obligations hereunder be diminished because of, Landlord's failure to relet the Premises or collect rent due in respect of such reletting or otherwise to mitigate any damages arising by reason of Tenant's Default. Notwithstanding any contrary provision of this Lease, neither party shall be liable to the other party for any consequential damages arising under this Lease; provided that this sentence shall not apply to Landlord's damages (x) as expressly provided for in Section 8, and/or (y) in connection with Tenant's obligations as more fully set forth in Section 30. In no event shall the foregoing limit the damages to which Landlord is entitled under this Section 21(c)(ii)(A)-(D).

22. **Assignment and Subletting**.

22.1 **General Prohibition**. Without Landlord's prior written consent subject to and on the conditions described in this Section 22 (including the terms of Section 22(b) below), 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. Transfers of publicly traded stock or the issuance of new stock through nationally recognized stock exchanges (including with any initial public offering of shares) will not be deemed an assignment or other transfer for the purposes of this Lease.

22.2 **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 45 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) except in connection with a Permitted Assignment, 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 received from any prior landlord to the proposed assignee or subtenant a negative report concerning such prior landlord's experience with the proposed assignee or subtenant; (7) Landlord has experienced previous defaults by or is in litigation with the proposed assignee or subtenant; (8) the use of the Premises by the proposed assignee or subtenant will violate any applicable Legal Requirement; (9) the proposed assignee or subtenant, or any entity that, directly or indirectly, controls, is controlled by, or is under common control with the proposed assignee or subtenant, is then an occupant of the Project; (10) the proposed assignee or subtenant is an entity with whom Landlord is negotiating to lease space in the Project; or (11) 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. If this Lease is terminated with respect to less than the entire Premises, then the Base Rent and Operating Expenses payable under this Lease shall be proportionately reduced. 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 Two Thousand Five Hundred Dollars ($2,500) 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 Landlord shall have the right to approve the form of any such sublease or assignment, which approval

shall not be unreasonably withheld, conditioned or delayed. In addition, Tenant shall have the right to assign this Lease, upon 30 days prior written notice to Landlord ((x) unless Tenant is prohibited from providing such notice by applicable Legal Requirements in which case Tenant shall notify Landlord promptly thereafter, and (y) if the transaction is subject to confidentiality requirements, Tenant's advance notification shall be subject to Landlord's execution of a non-disclosure agreement reasonably acceptable to Landlord and Tenant) 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 the 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**."

22.3 **Additional Conditions**. As a condition to any such assignment or subletting, whether or not Landlord's consent is required, Landlord may require:

(a) 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 the 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

(b) 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.

22.4 **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 the rental payable under this Lease, (excluding however, any Rent payable under this Section) and actual and reasonable brokerage fees, legal costs, tenant improvements allowance, commercially reasonable free rent or commercially reasonable concessions, and any design or construction fees 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.

22.5 **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 the 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.

22.6 **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, to Tenant's knowledge, 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 delivered after the expiration of the initial 10 business day period shall, at the option of Landlord, constitute a Default under this Lease, and, in any event, shall be conclusive upon Tenant that the 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 and non-discriminatory rules and regulations at any time or from time to time established by Landlord covering use of the Premises and the Project, provided that Landlord provides reasonable advance written notice thereof. 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, within 10 days following Landlord written demand, to execute, acknowledge and deliver such instruments, confirming such subordination, and such instruments of attornment as shall be reasonably requested by any such Holder, provided any such instruments contain commercially reasonable 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.

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 a Landlord Party (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, which approval shall not be unreasonably withheld, conditioned or delayed. 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 reasonably 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 the 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 $2,500. 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.

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**.

30.1 **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, reasonable 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 (collectively, "**Environmental Claims**") 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 Building, the Project or any adjacent property caused or permitted by Tenant or any Tenant Party results in any contamination of the Premises, the Building, 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 Building, 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, conditioned or delayed so long as such actions would not potentially have any material adverse long-term or short-term effect on the Premises, the Building or the Project. Notwithstanding anything to the contrary contained in Section 28 or 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 existed in the Premises immediately prior to the Commencement Date, (ii) the presence of any Hazardous Materials in the Premises which Tenant can prove migrated from outside of the Premises into the Premises, or (iii) contamination caused by Landlord or any Landlord's employees, agents and contractors, 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.

30.2 **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 (not more than once in any given calendar year), 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 Surrender 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.

30.3 **Tenant Representation and Warranty**. Tenant hereby represents and warrants to Landlord that (i) neither Tenant nor, to the best of Tenant's knowledge, 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.

30.4 **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. Tenant shall be required to pay the actual and reasonable 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 actual and reasonable 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 for which Tenant is responsible under this Lease 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. Tenant shall have the right to have a Tenant representative present while Landlord conducts tests in the Premises pursuant to this Section 30(d).

30.5 **Control Areas**. Tenant shall have the use of 50% of the control area designated as control area 3 on **Exhibit H** attached hereto. For the avoidance of doubt, Tenant shall not have rights with respect to any other control areas at the Project.

30.6 **Underground Tanks**. Tenant shall have no right to use or install any underground or other storage tanks at the Project.

30.7 **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 for which Tenant is responsible under this Lease (including, without limitation, the release and termination of any licenses or permits restricting the use of the Premises and the completion of the approved Surrender 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.

30.8 **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). 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.

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. 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 and assumption of this Lease by the transferee from and after the transfer, 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 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 12 months of the Term, to prospective tenants or for any other business purpose. Landlord shall use reasonable efforts to minimize interference with Tenant's operations in the Premises during any entry into the Premises by Landlord pursuant to this Section 32. Landlord may erect a suitable sign on the Premises stating the Premises are available to let or that the Project is available for sale. 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 access to or use or occupancy of the Premises for the Permitted Use or Tenant's parking (other than on a temporary basis). At Landlord's request, Tenant shall execute such instruments as may be necessary for such easements, dedications or restrictions, provided that such instruments do not materially increase Tenant's obligations or decrease Tenant's rights under this Lease. 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 comply with Tenant's reasonable safety and security requirements with respect to entering the Premises; provided, however, that Tenant has notified Landlord of such safety and security requirements prior to Landlord's entry into the Premises.

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.

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, 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. Landlord and Tenant each hereby agree to indemnify and hold the other harmless from and against any claims by any Broker 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.

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.

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 sole 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. Interior signs on doors and the directory tablet shall be inscribed, painted or affixed for Tenant by Landlord at the sole cost and expense of Tenant, and shall be of a size, color and type reasonably acceptable to Landlord. Nothing may be placed on the exterior of corridor walls or corridor doors other than Landlord's standard lettering. The directory tablet shall be provided exclusively for the display of the name and location of tenants.

39. **The Alexandria Amenities**.

39.1 **Generally**. ARE-SD Region No. 17, LLC, a Delaware limited liability company ("**The Alexandria Landlord**") has constructed certain amenities at the property owned by The Alexandria Landlord located at 10996 Torreyana Road, San Diego, California ("**The Alexandria**"), which, as of the date of this Lease, include, without limitation, shared conference facilities ("**Shared Conference Facilities**"), a fitness center and restaurant (collectively, the "**Amenities**") for non-exclusive use by (a) Tenant, (b) other tenants of the Project, (c) Landlord, (d) the tenants of The Alexandria Landlord, (e) The Alexandria Landlord, (e) other affiliates of Landlord, The Alexandria Landlord and Alexandria Real Estate Equities, Inc. ("**ARE**"), (f) the tenants of such other affiliates of Landlord, The Alexandria Landlord and ARE, and (g) any other parties permitted by The Alexandria Landlord (collectively, "**Users**"). Landlord, The Alexandria Landlord, ARE, and all affiliates of Landlord, Alexandria 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 The Alexandria Landlord shall have the right, at the sole discretion of The Alexandria Landlord, to not make the Amenities available for use by some or all currently contemplated Users (including Tenant). The Alexandria Landlord shall have the sole right to determine all matters related to the Amenities including, without limitation, relating to the reconfiguration, relocation, modification or removal of any of the Amenities at The Alexandria and/or to revise, expand or discontinue any of the services (if any) provided in connection with the Amenities. Tenant acknowledges and agrees that Landlord has not made any representations or warranties regarding the availability of the Amenities and that Tenant is not entering into this Lease relying on the continued availability of the Amenities to Tenant.

39.2 **License**. Commencing on the Commencement Date, and so long as The Alexandria and the Project continue to be owned by affiliates of ARE, Tenant shall have the non-exclusive right to the use of the available Amenities in common with other Users pursuant to the terms of this Section 39. Tenant shall be entitled to 2.5 passes to the fitness center located at The Alexandria per 1,000 rentable square feet of the Premises for use by employees of Tenant employed at the Premises. If any employee of Tenant to whom a fitness center pass has been issued ceases to be an employee of Tenant at the Premises or any employee to whom an access card (which does not include a fitness center pass) has been issued ceases to be an employee of Tenant at the Premises, Tenant shall, promptly following such employee's change in status, collect such employee's pass or access card, as applicable, deliver it to Landlord and so notify Landlord of such employee's change in status.

Commencing on the Commencement Date, Tenant shall pay to Landlord a fixed fee during Term equal to $2.16 per rentable square foot of the Premises per year ("**Amenities Fee**"), which Amenities Fee shall by payable on the first day of each month during the Term whether or not Tenant elects to use any or all of the Amenities.

If all of the Amenities at The Alexandria become materially unavailable for use by Tenant (for any reason other than a Default by Tenant under this Lease or the default by Tenant of any agreement(s) relating to the use of the Amenities by Tenant) for a period in excess of 90 consecutive days, then, commencing on the date that the Amenities in their entirety become materially unavailable for use by Tenant and continuing for the period that the Amenities in their entirety remain materially unavailable for use by Tenant, the Amenities Fee then-currently payable by Tenant shall be abated.

39.3 **Shared Conference Facilities**. Use by Tenant of the Shared Conference Facilities and restaurant at The Alexandria shall be in common with other Users with scheduling procedures reasonably determined by The Alexandria Landlord or The Alexandria Landlord's then designated event operator ("**Event Operator**"). Tenant's use of the Shared Conference Facilities shall be subject to the payment by Tenant to The Alexandria Landlord of a fee equal to The Alexandria Landlord's quoted rates for the usage of the Shared Conference Facilities in effect at the time of Tenant's scheduling. Tenant's use of the conference rooms in the Shared Conference Area shall be subject to availability and The Alexandria Landlord (or, if applicable, Event Operator) reserves the right to exercise its reasonable discretion in the event of conflicting scheduling requests among Users. Tenant hereby acknowledges that (i) Biocom/San Diego, a California non-profit corporation ("**Biocom**") has the right to reserve the Shared Conference Facilities and any reservable dining area(s) included within the Amenities for up to 50% of the time that such Shared Conference Facilities and reservable dining area(s) are available for use by Users each calendar month, and (ii) Illumina, Inc., a Delaware corporation, has the exclusive use of the main conference room within the Shared Conference Facilities for up to 4 days per calendar month.

Tenant shall be required to use the food service operator designated by The Alexandria Landlord at The Alexandria (the "**Designated Food and Beverage Operator**") for any food and/or beverage service or catered events held by Tenant in the Shared Conference Facilities. As of the date of this Lease, the Designated Food and Beverage Operator is The Farmer and the Seahorse. The Alexandria Landlord has the right, in its sole and absolute discretion, to change the Designated Food and Beverage Operator at any time. Tenant may not use any vendors other than the Designated Food and Beverage Operator nor may Tenant supply its own food and/or beverages in connection with any food and/or beverage service or catered events held by Tenant in the Shared Conference Facilities.

Tenant shall, at Tenant's sole cost and expense, (i) be responsible for the set-up of the Shared Conference Facilities in connection with Tenant's use (including, without limitation ensuring that Tenant has a sufficient number of chairs and tables and the appropriate equipment), and (ii) surrender the Shared Conference Facilities after each time that Tenant uses the Shared Conference Facilities free of Tenant's personal property, in substantially the same set up and same condition as received, and free of any debris and trash. If Tenant fails to restore and surrender the Shared Conference Facilities as required by sub-section (ii) of the immediately preceding sentence, such failure shall constitute a "**Shared Facilities Default**." Each time that Landlord reasonably determines that Tenant has committed a Shared Facilities Default, Tenant shall be required to pay Landlord a penalty within 5 days after notice from Landlord of such Shared Facilities Default. The penalty payable by Tenant in connection with the first Shared Facilities Default shall be $200. The penalty payable shall increase by $50 for each subsequent Shared Facilities Default (for the avoidance of doubt, the penalty shall be $250 for the second Shared Facilities Default, shall be $300 for the third Shared Facilities Default, etc.). In addition to the foregoing, Tenant shall be responsible for reimbursing The Alexandria Landlord or Landlord, as applicable, for all reasonable out-of-pocket costs expended by The Alexandria Landlord or Landlord, as applicable, in repairing any damage to the Shared Conference Facilities, the Amenities, or The Alexandria caused by Tenant or any Tenant Related Party. The provisions of this Section 39(c) shall survive the expiration or earlier termination of this Lease.

39.4 **Restaurant**. Tenant's employees that have been issued an access card to The Alexandria shall have the right, along with other Users, to access and use the restaurant located at The Alexandria. All such employees of Tenant shall be entitled to a 20% discount on certain food items (not including alcohol) purchased at the restaurant (on an individual basis and not with respect to entire tables or checks), which discounts shall not be transferrable.

39.5 **Rules and Regulations**. Tenant shall be solely responsible for paying for any and all ancillary services (e.g., audio visual equipment) provided to Tenant, all food services operators and any other third party vendors providing services to Tenant at The Alexandria. Tenant shall use the Amenities (including, without limitation, the Shared Conference Facilities) in compliance with all applicable Legal Requirements and any rules and regulations imposed by The Alexandria 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 enforced in a non-discriminatory manner. The use of 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 agreement required by The Alexandria Landlord or the operator of the Amenities to be executed by all persons wishing to use such Amenities. Neither The Alexandria 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 Amenities. Tenant shall not make any alterations, additions, or improvements of any kind to the Shared Conference Facilities, the Amenities or The Alexandria.

Tenant acknowledges and agrees that The Alexandria Landlord shall have the right at any time and from time to time to reconfigure, relocate, modify or remove any of the Amenities at The Alexandria and/or to revise, expand or discontinue any of the services (if any) provided in connection with the Amenities.

39.6 **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 Alexandria. 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 Amenities and any entry by Tenant and/or any Tenant Parties onto The Alexandria, and Tenant releases and exculpates all ARE Parties from any liability relating to, arising out of or in connection with the Amenities and any entry by Tenant and/or any Tenant Parties onto The Alexandria. Tenant hereby agrees to indemnify, defend, and hold harmless the ARE Parties from any claim of damage to property or injury to person relating to, arising out of or in connection with (i) the use of the Amenities by Tenant or any Tenant Parties, and (ii) any entry by Tenant and/or any Tenant Parties onto The Alexandria, except to the extent caused by the negligence or willful misconduct of ARE Parties. The provisions of this Section 39(f) shall survive the expiration or earlier termination of this Lease.

39.7 **Insurance**. As of the Commencement Date, Tenant shall cause The Alexandria Landlord to be named as an additional insured under the commercial general liability policy of insurance that Tenant is required to maintain pursuant to Section 17 of this Lease.

40. **Miscellaneous**.

40.1 **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.

40.2 **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.

40.3 **Financial Information**. Upon request from Landlord, Tenant shall furnish Landlord with true and complete copies of (i) Tenant's most recent audited annual financial statements within 90 days of the end of each of Tenant's fiscal years during the Term, (ii) Tenant's most recent unaudited quarterly financial statements within 45 days of the end of each of Tenant's first three fiscal quarters of each of Tenant's fiscal years during the Term, (iii) at Landlord's 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) corporate brochures and/or profiles prepared by Tenant for prospective investors, and (v) any other financial information or summaries that Tenant typically provides to its lenders or shareholders. Notwithstanding the foregoing, 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.

40.4 **Recordation**. Neither this Lease nor a memorandum of lease shall be filed by or on behalf of Tenant in any public record. Landlord may prepare and file, and upon request by Landlord Tenant will execute, a memorandum of lease.

40.5 **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.

40.6 **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.

40.7 **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.

40.8 **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.

40.9 **Time**. Time is of the essence as to the performance of Landlord's and Tenant's obligations under this Lease.

40.10 **OFAC**. Tenant and all beneficial owners of 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.

40.11 **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.

40.12 **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.

40.13 **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.

40.14 **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.

40.15 **Redevelopment of Project**. Tenant acknowledges that Landlord, in its sole discretion, may from time to time, subject to the third sentence of Section 1, expand, renovate and/or reconfigure the Project as the same may exist from time to time and, in connection therewith or in addition thereto, as the case may be, from time to time without limitation: (a) change the shape, size, location, number and/or extent of any improvements, buildings, structures, lobbies, hallways, entrances, exits, parking and/or parking areas relative to any portion of the Project; (b) modify, eliminate and/or add any buildings, improvements, and parking structure(s) either above or below grade, to the Project, the Common Areas and/or any other portion of the Project and/or make any other changes thereto affecting the same; and (c) make any other changes, additions and/or deletions in any way affecting the Project and/or any portion thereof as Landlord may elect from time to time, including without limitation, additions to and/or deletions from the land comprising the Project, the Common Areas and/or any other portion of the Project. Notwithstanding anything to the contrary contained in this Lease, Tenant shall have no right to seek damages (including abatement of Rent) or to cancel or terminate this Lease because of any proposed changes, expansion, renovation or reconfiguration of the Project nor shall Tenant have the right to restrict, inhibit or prohibit any such changes, expansion, renovation or reconfiguration; provided, however, Landlord shall not change the size, dimensions, location or Tenant's Permitted Use of the Premises.

40.16 **Discontinued Use**. If, at any time following the Rent Commencement Date, Tenant does not continuously operate its business in the Premises for a period of 90 consecutive days, Landlord may, but is not obligated to, elect to terminate this Lease upon 30 days' written notice to Tenant, whereupon this Lease shall terminate 30 days' after Landlord's delivery of such written notice ("**Termination Date**"), and Tenant shall vacate the Premises and deliver possession thereof to Landlord in the condition required by the terms of this Lease on or before the Termination Date and Tenant shall

have no further obligations under this Lease except for those accruing prior to the Termination Date and those which, pursuant to the terms of the Lease, survive the expiration or early termination of the Lease.

40.17 **EV Charging Stations**. Landlord shall not unreasonably withhold its consent to Tenant's written request to install 1 or more electric vehicle car charging stations ("**EV Stations**") in the parking area serving the Project; provided, however, that Tenant complies with all reasonable requirements, standards, rules and regulations which may be imposed by Landlord, at the time Landlord's consent is granted, in connection with Tenant's installation, maintenance, repair and operation of such EV Stations, which may include, without limitation, the charge to Tenant of a reasonable monthly rental amount for the parking spaces used by Tenant for such EV Stations, Landlord's designation of the location of Tenant's EV Stations, and Tenant's payment of all costs whether incurred by Landlord or Tenant in connection with the installation, maintenance, repair and operation of each Tenant's EV Station(s). Nothing contained in this paragraph is intended to increase the number of parking spaces which Tenant is otherwise entitled to use at the Project under Section 10 of this Lease nor impose any additional obligations on Landlord with respect to Tenant's parking rights at the Project.

40.18 California Accessibility Disclosure. For purposes of Section 1938(a) of the California Civil Code, Landlord hereby discloses to Tenant, and Tenant hereby acknowledges, that the Project has not undergone inspection by a Certified Access Specialist (CASp). In addition, the following notice is hereby provided pursuant to Section 1938(e) of the California Civil Code: "A Certified Access Specialist (CASp) can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy or potential occupancy of the lessee or tenant, if requested by the lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of the CASp inspection, the payment of the fee for the CASp inspection, and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the premises." In furtherance of and in connection with such notice: (i) Tenant, having read such notice and understanding Tenant's right to request and obtain a CASp inspection, hereby elects not to obtain such CASp inspection and forever waives its rights to obtain a CASp inspection with respect to the Premises, Building and/or Project to the extent permitted by Legal Requirements; and (ii) if the waiver set forth in clause (i) hereinabove is not enforceable pursuant to Legal Requirements, then Landlord and Tenant hereby agree as follows (which constitutes the mutual agreement of the parties as to the matters described in the last sentence of the foregoing notice): (A) Tenant shall have the one-time right to request for and obtain a CASp inspection, which request must be made, if at all, in a written notice delivered by Tenant to Landlord; (B) any CASp inspection timely requested by Tenant shall be conducted (1) at a time mutually agreed to by Landlord and Tenant, (2) in a professional manner by a CASp designated by Landlord and without any testing that would damage the Premises, Building or Project in any way, and (3) at Tenant's sole cost and expense, including, without limitation, Tenant's payment of the fee for such CASp inspection, the fee for any reports prepared by the CASp in connection with such CASp inspection (collectively, the "**CASp Reports**") and all other costs and expenses in connection therewith; (C) the CASp Reports shall be delivered by the CASp simultaneously to Landlord and Tenant; (D) Tenant, at its sole cost and expense, shall be responsible for making any improvements, alterations, modifications and/or repairs to or within the Premises to correct violations of construction-related accessibility standards including, without limitation, any violations disclosed by such CASp inspection; and (E) if such CASp inspection identifies any improvements, alterations, modifications and/or repairs necessary to correct violations of construction-related accessibility standards relating to those items of the Building and Project located outside the Premises that are Landlord's obligation to repair as set forth in this Lease, then Landlord shall perform such improvements, alterations, modifications and/or repairs as and to the extent required by Legal Requirements to correct such violations, and Tenant shall reimburse Landlord for the cost of such improvements, alterations, modifications and/or repairs within 10 business days after Tenant's receipt of an invoice therefor from Landlord.

40.19 **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 facsimile, 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.

40.20 **Attorneys' Fees**. If a dispute of arises or an action is filed under this Lease or this Lease gives rise to any other legal proceeding between any of the parties hereto, the prevailing party shall be entitled to recover from the losing party reasonable attorneys' fees, costs and expenses. The prevailing party shall also be entitled to attorneys' fees and costs after any dismissal of an action.

[Signatures on next page]

IN WITNESS WHEREOF, Landlord and Tenant have executed this Lease as of the day and year first above written.

TENANT:

REGULUS THERAPEUTICS INC.,
a Delaware corporation

By: /s/ Daniel R. Chevallard
Its: Chief Financial Officer

By: /s/ Christopher Aker
Its: SVP & General Counsel

LANDLORD:

ARE-SD REGION NO. 44, LLC,
a Delaware limited liability company

By: ALEXANDRIA REAL ESTATE EQUITIES, L.P.,
a Delaware limited partnership,
managing member

By: ARE-QRS CORP.,
a Maryland corporation,
general partner

By: Gary Dean
Its: Senior Vice President RE Legal Affairs

EXHIBIT A TO LEASE

DESCRIPTION OF PREMISES

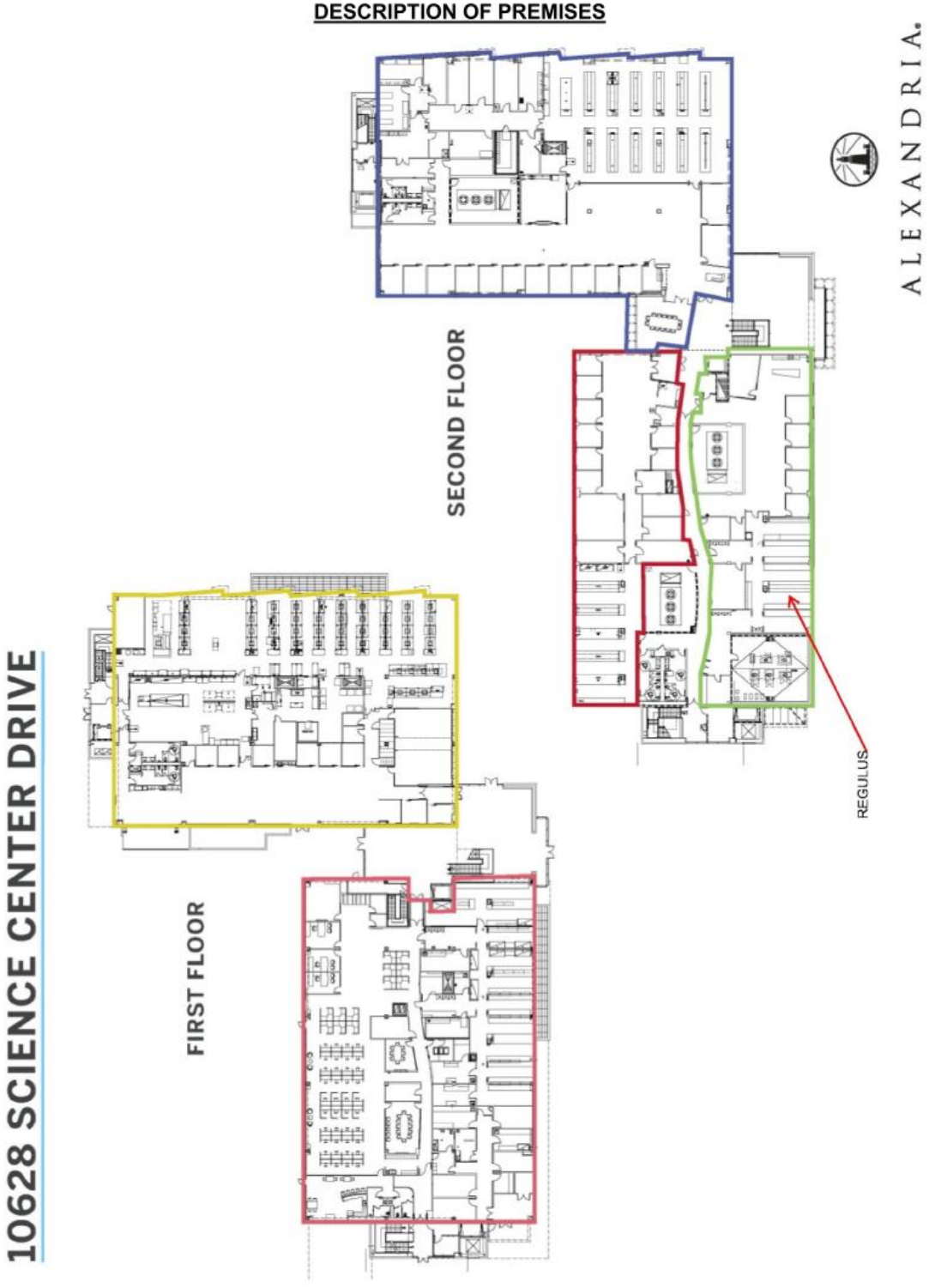


EXHIBIT B TO LEASE

DESCRIPTION OF PROJECT

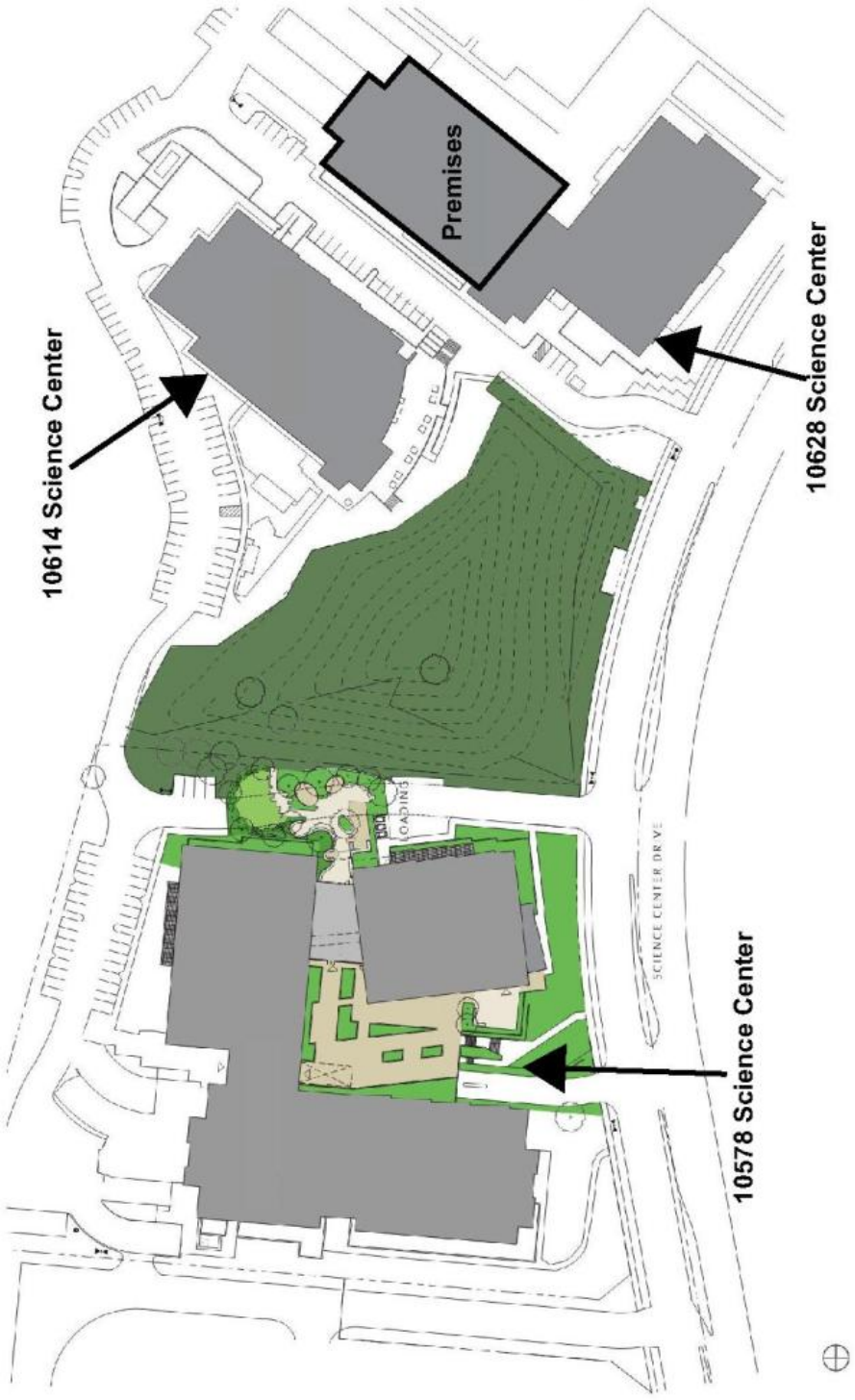


EXHIBIT C TO LEASE

BASE RENT SCHEDULE

Regulus

Suite 225

Month	RSF	Base Rent	Base Rent Abatement	Base Rent Due	Base Rent Due / RSF
Jul-19	8,727	$ 34,947.41	$ (34,947.41)	$ -	$ -
Aug-19	8,727	$ 35,257.08	$ (35,257.08)	$ -	$ -
Sep-19	8,727	$ 35,257.08	$ (35,257.08)	$ -	$ -
Oct-19	8,727	$ 35,257.08		$ 35,257.08	$ 4.04
Nov-19	8,727	$ 35,257.08		$ 35,257.08	$ 4.04
Dec-19	8,727	$ 35,257.08		$ 35,257.08	$ 4.04
Jan-20	8,727	$ 35,257.08		$ 35,257.08	$ 4.04
Feb-20	8,727	$ 35,257.08		$ 35,257.08	$ 4.04
Mar-20	8,727	$ 35,257.08		$ 35,257.08	$ 4.04
Apr-20	8,727	$ 35,257.08		$ 35,257.08	$ 4.04
May-20	8,727	$ 35,257.08		$ 35,257.08	$ 4.04
Jun-20	8,727	$ 35,257.08		$ 35,257.08	$ 4.04
Jul-20	8,727	$ 35,966.50		$ 35,966.50	$ 4.12
Aug-20	8,727	$ 36,304.32		$ 36,304.32	$ 4.16
Sep-20	8,727	$ 36,304.32		$ 36,304.32	$ 4.16
Oct-20	8,727	$ 36,304.32		$ 36,304.32	$ 4.16
Nov-20	8,727	$ 36,304.32		$ 36,304.32	$ 4.16
Dec-20	8,727	$ 36,304.32		$ 36,304.32	$ 4.16
Jan-21	8,727	$ 36,304.32		$ 36,304.32	$ 4.16
Feb-21	8,727	$ 36,304.32		$ 36,304.32	$ 4.16
Mar-21	8,727	$ 36,304.32		$ 36,304.32	$ 4.16
Apr-21	8,727	$ 36,304.32		$ 36,304.32	$ 4.16
May-21	8,727	$ 36,304.32		$ 36,304.32	$ 4.16
Jun-21	8,727	$ 36,304.32		$ 36,304.32	$ 4.16
Jul-21	8,727	$ 37,072.86		$ 37,072.86	$ 4.25
Aug-21	8,727	$ 37,438.83		$ 37,438.83	$ 4.29
Sep-21	8,727	$ 37,438.83		$ 37,438.83	$ 4.29
Oct-21	8,727	$ 37,438.83		$ 37,438.83	$ 4.29
Nov-21	8,727	$ 37,438.83		$ 37,438.83	$ 4.29
Dec-21	8,727	$ 37,438.83		$ 37,438.83	$ 4.29
		$ 1,082,356.32	**$ (105,461.57)**	**$ 976,894.75**	

EXHIBIT D TO LEASE

ACKNOWLEDGMENT OF COMMENCEMENT DATE

This **ACKNOWLEDGMENT OF COMMENCEMENT DATE** is made this _____ day of _____, ____, between **ARE-SD REGION NO. 44, LLC**, a Delaware limited liability company ("**Landlord**"), and **REGULUS 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 _____, _____, the Rent Commencement Date 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:

REGULUS THERAPEUTICS INC.,
a Delaware corporation

By:_____
Its:_____

By:_____
Its:_____

LANDLORD:

ARE-SD REGION NO. 44, LLC,
a Delaware limited liability company

By: ALEXANDRIA REAL ESTATE EQUITIES, L.P.,
a Delaware limited partnership,
managing member

By: ARE-QRS CORP.,
a Maryland corporation,
general partner

By:_____
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.

2. 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.

3. Except for animals assisting the disabled, no animals shall be allowed in the offices, halls, or corridors in the Project.

4. 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.

5. 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.

6. 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.

7. 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.

8. Tenant shall maintain the Premises free from rodents, insects and other pests.

9. 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.

10. 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.

11. Tenant shall give Landlord prompt notice of any defects of which Tenant becomes aware in the water, lawn sprinkler, sewage, gas pipes, electrical lights and fixtures, heating apparatus, or any other service equipment affecting the Premises.

12. 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.

13. 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.

14. No auction, public or private, will be permitted on the Premises or the Project.

15. No awnings shall be placed over the windows in the Premises except with the prior written consent of Landlord.

16. 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 gaming devices shall be operated in the Premises.

17. 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.

18. Tenant assumes full responsibility for protecting the Premises from theft, robbery and pilferage.

19. Tenant shall not install or operate on the Premises any machinery or mechanical devices of a nature not directly related to Tenant's Permitted Use of the Premises and shall keep all such machinery free of vibration, noise and air waves which may be transmitted beyond the Premises.

EXHIBIT F TO LEASE

TENANT'S PERSONAL PROPERTY

None.

EXHIBIT G TO LEASE

MAINTENANCE OBLIGATIONS

Maintenance Responsibilities	REGULUS	ARE	Shared
RO/DI Lab Water	✓		
Air Compressors		✓	
Vacuum Pumps		✓	
Domestic backflow preventor certification - Industrial		✓	
Domestic backflow preventor certification - Fire		✓	
Elevators		✓	
Elevator Phone Lines		✓	
Fire Sprinkler System		✓	
Fire Alarm System (and phone lines)		✓	
Building HVAC[1]		✓	
Smoke Fire Dampers		✓	
Security[2]			✓
Access Controls	✓		
CCTV	✓		
Underground parking lot sweeping		✓	
I/R Testing of electrical systems[3]			✓
Building Management System and Controls		✓	
Monthly and Annual Generator Testing[4]		✓	
Type 2 Fuel Oil: Delivery		✓	
Heating Hot Water		✓	
Water Treatment		✓	
External landscaping		✓	
BMS for central plant, hot water and BTU Meters		✓	
Pest Control - Exterior		✓	
Pest Control - Interior	✓		
External Parking lot sweeping, painting, maintenance		✓	
Eternal Project Security		✓	
Parking & Garage Lot Lighting		✓	
Outside lights and inverters		✓	
Storm Drain Maintenance		✓	
Roof: Annual Inspections		✓	
Fire Extinguishers		✓	
Emergency Showers		✓	
Parking Garage Roll-Up Doors		✓	

Notes

1 Exhaust Fans, Chiller, Fan Coils, AHU

2 Tenant responsible for interior premises

3 Coordinated

4 Coordinated

EXHIBIT H TO LEASE

CONTROL ZONES

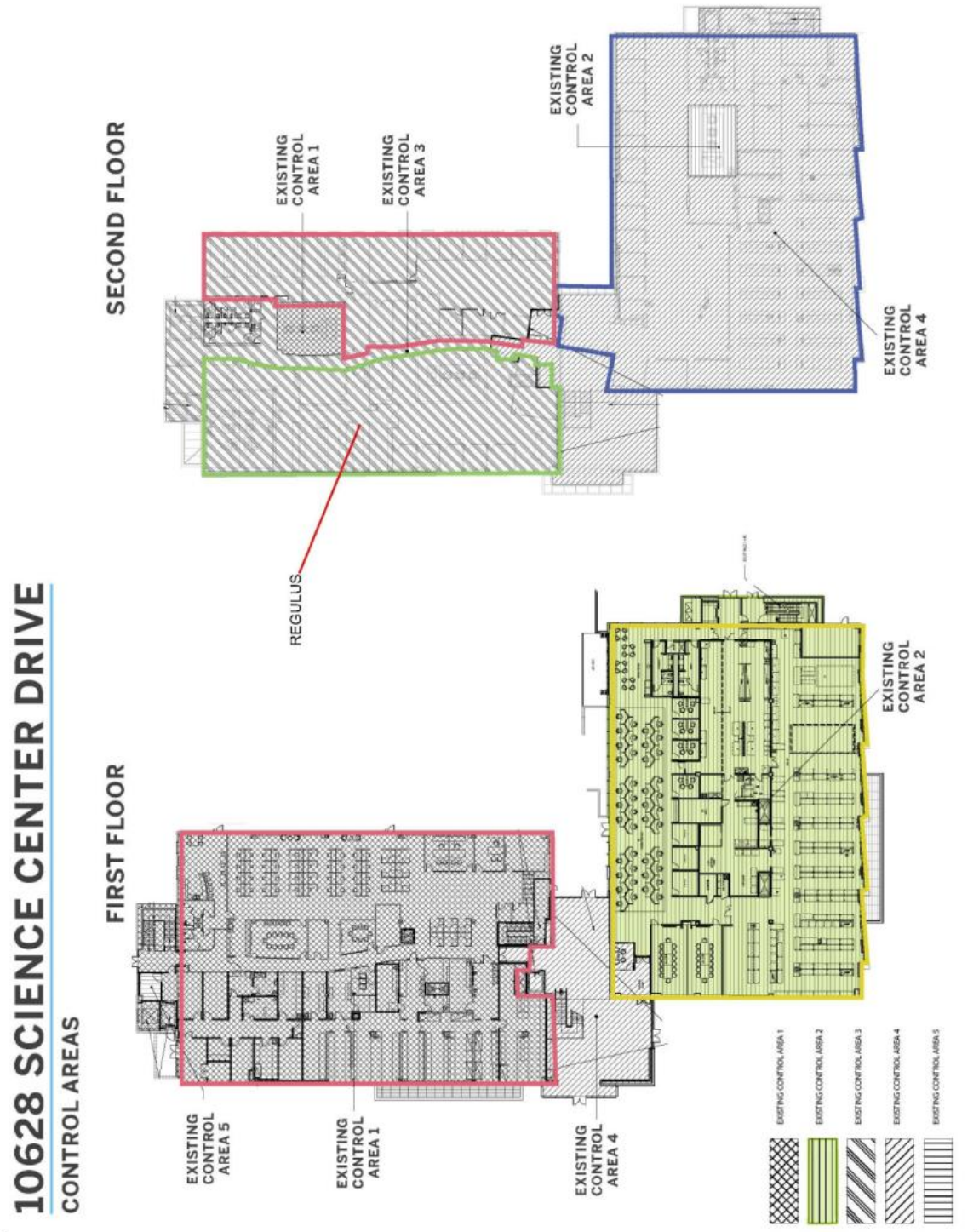


EXHIBIT B
FF&E

Location: Entrance Lobby
TV Screen (1)

Location: Small Conference Room
Meeting Table (1)
Guest Chair (4)

Location: Large Conference Room
Conference Table (1)
TV Screen (1)
Glass whiteboard (1)
Credenza (1)
Conference Chairs (8)

Location: Kitchen
Fridge (1)
Small round table (2)
Medium lunch table (1)
Orange chairs (8)

Location: Office A
L shaped desk (2)
Desk chair (2)

Location: Office B
L shaped desk (1)
Desk chair (1)

Location: Office C
Straight desk (1)
Desk chair (1)

Location: Office D
Straight desk (1)
Desk chair (1)

Office E
Straight desk (1)
Desk chair (1)

Location: Main office Area
Middle Desks (22)
Larger side desks (2)
Desk Chairs (22)

EXHIBIT C

Bill of Sale

THIS BILL OF SALE is made as of February 11, 2021 (the "***Execution Date***"), by **REGULUS THERAPEUTICS INC.**, a Delaware corporation ("***Seller***"), and **TURNING POINT THERAPEUTICS, INC.**, a Delaware corporation ("***Buyer***").

R E C I T A L S:

A. Seller, as Assignor, and Buyer, as Assignee, are parties to that certain Assignment and Assumption of Lease dated of even date herewith (the "***Assignment***"), with respect to certain premises commonly known as Suite 225 containing approximately 8,727 rentable square feet (the "***Premises***"), in that certain building located at 10628 Science Center Drive, San Diego, California.

B. Pursuant to Section 5 of the Assignment, on the Delivery Date, Buyer shall purchase from Seller those items of Seller's furniture, fixtures, and equipment itemized on **Schedule 1** attached hereto and made a part hereof (collectively, the "***FF&E***") for the sum of One Dollar ($1.00) (the "***FF&E Consideration***").

NOW, **THEREFORE,** in consideration for the foregoing, the receipt and sufficiency of which is hereby acknowledged:

1. **Assignment and Bill of Sale**. Seller hereby represents and warrants that it currently holds title to the FF&E free and clear of any liens or encumbrances. As of the Delivery Date, Seller hereby conveys, assigns, grants, transfers, quitclaims, releases, and delivers the FF&E to Buyer, and its successors and assigns. Seller conveys the FF&E to Buyer on an "*as is, where is, with all faults*" basis. Except as set forth herein, Seller makes no representation or warranty to Buyer of any kind or nature whatsoever, express or implied, regarding the FF&E or the fitness of the FF&E for any particular use or purpose.

2. **Acceptance**. As of the Delivery Date, Buyer hereby accepts the FF&E in its existing condition on the Delivery Date and agrees to be solely responsible for the FF&E from and after the Delivery Date.

3. **Governing Law**. This Bill of Sale is governed by and construed in accordance with the laws of the State of California without giving effect to rules governing the conflict of laws.

4. **Capitalized Terms**. Capitalized terms used in this Bill of Sale and not expressly defined herein shall have the meanings given to them in the Assignment.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, Seller and Buyer have caused this Bill of Sale to be duly executed and delivered by their respective duly authorized officer as of the Execution Date.

SELLER:

REGULUS THERAPEUTICS INC.,
a Delaware corporation

By: /s/ Cris Calsada
Name: Cris Calsada
Its: Chief Financial Officer

BUYER:

TURNING POINT THERAPEUTICS, INC.,
a Delaware corporation

By: /s/ Yi Larson
Name: Yi Larson
Its: EVP & CFO

SCHEDULE I
FF&E

Location: Entrance Lobby
TV Screen (1)

Location: Small Conference Room
Meeting Table (1)
Guest Chair (4)

Location: Large Conference Room
Conference Table (1)
TV Screen (1)
Glass whiteboard (1)
Credenza (1)
Conference Chairs (8)

Location: Kitchen
Fridge (1)
Small round table (2)
Medium lunch table (1)
Orange chairs (8)

Location: Office A
L shaped desk (2)
Desk chair (2)

Location: Office B
L shaped desk (1)
Desk chair (1)

Location: Office C
Straight desk (1)
Desk chair (1)

Location: Office D
Straight desk (1)
Desk chair (1)

Office E
Straight desk (1)
Desk chair (1)

Location: Main office Area
Middle Desks (22)
Larger side desks (2)
Desk Chairs (22)

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statement (Form S-3 Nos. 333-231965, 333-236026 and 333-251853) of Regulus Therapeutics Inc.,

(2) Registration Statement (Form S-8 Nos. 333-233414 and 333-236020) pertaining to the 2019 Equity Incentive Plan of Regulus Therapeutics Inc.,

(3) Registration Statement (Form S-8 No. 333-184324) pertaining to the 2009 Equity Incentive Plan, 2012 Equity Incentive Plan and 2012 Employee Stock Purchase Plan of Regulus Therapeutics Inc.,

(4) Registration Statement (Form S-8 No. 333-206511) pertaining to the Regulus Therapeutics Inc. Inducement Plan,

(5) Registration Statement (Form S-8 Nos. 333-188606, 333-194294, 333-201988, 333-209654, 333-215793, 333-222434 and 333-229514) pertaining to the 2012 Equity Incentive Plan and 2012 Employee Stock Purchase Plan of Regulus Therapeutics Inc., and

(6) Registration Statement (Form S-8 No. 333-252733) pertaining to the 2019 Equity Incentive Plan and the 2012 Employee Stock Purchase Plan of Regulus Therapeutics Inc.;

of our report dated March 9, 2021, with respect to the financial statements of Regulus Therapeutics Inc. included in this Annual Report (Form 10-K) for the year ended December 31, 2020.

/s/ Ernst & Young LLP

San Diego, California
March 9, 2021

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Joseph P. Hagan., certify that:

1. I have reviewed this Annual Report on Form 10-K of Regulus 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 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 13(a)-15(f) and 15(d)-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 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 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: March 9, 2021

/s/ Joseph P. Hagan
Joseph P. Hagan
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Cris Calsada, certify that:

1. I have reviewed this Annual Report on Form 10-K of Regulus 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 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 13(a)-15(f) and 15(d)-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 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 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: March 9, 2021

/s/ Cris Calsada
Cris Calsada
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Regulus Therapeutics Inc. (the "Company") on Form 10-K for the year ended December 31, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Joseph P. Hagan, President and Chief Executive Officer, and I, Cris Calsada, Chief Financial Officer, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 9, 2021

/s/ Joseph P. Hagan
Joseph P. Hagan
President and Chief Executive Officer
(Principal Executive Officer)

Date: March 9, 2021

/s/ Cris Calsada
Cris Calsada
Chief Financial Officer
(Principal Financial Officer)

The foregoing certification is being furnished solely pursuant to 18 U.S.C. Section 1350 and is not being filed as part of the Report or as a separate disclosure document and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Report), irrespective of any general incorporation language contained in such filing.
.