

**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, 2022
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 001-39273

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

Delaware
(State or other jurisdiction of
incorporation or organization)
480 Arsenal Way
Watertown, MA
(Address of principal executive offices)

84-1700838
(I.R.S. Employer
Identification No.)

02472
(Zip Code)

Registrant's telephone number, including area code: (617) 393-4600

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, \$0.001 par value per share	LYRA	The Nasdaq Global Market

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

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

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

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the 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	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
Emerging growth company	<input checked="" type="checkbox"/>		

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.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

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

The aggregate market value of outstanding shares of common stock held by non-affiliates of the registrant, based on the closing price of the shares of common stock on The Nasdaq Global Market on June 30, 2022, the last business day of the registrant's most recently completed second fiscal quarter, was \$102,992,856. For purposes of this disclosure, shares of common stock held by officers and directors of the registrant and by persons who hold more than 10% of the registrant's outstanding common shares have been excluded because such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily conclusive.

The number of shares of the registrant's Common Stock, \$0.001 par value per share, outstanding as of March 1, 2023 was 31,829,774.

DOCUMENTS INCORPORATED BY REFERENCE

None.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements. We intend such forward-looking statements to be covered by the safe harbor provisions for forward-looking statements contained in Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements other than statements of historical fact contained in this Annual Report on Form 10-K are forward-looking statements, including but not limited to statements regarding:

- our plans to develop and commercialize our product candidates;
- the timing of our ongoing or planned clinical trials for LYR-210, LYR-220, and any future product candidates;
- the timing of and our ability to obtain and maintain regulatory approvals for LYR-210, LYR-220, and any future product candidates;
- the clinical utility of our product candidates;
- our commercialization, marketing, and manufacturing capabilities and strategy;
- our expectations about the willingness of healthcare professionals to use LYR-210, LYR-220, and any future product candidates;
- our expectations regarding the development and commercialization of LYR-210 pursuant to the terms of the LianBio License Agreement (as defined below);
- our intellectual property position;
- our competitive position and developments and projections relating to our competitors or our industry;
- our ability to identify, recruit, and retain key personnel;
- the impact of laws and regulations;
- risks associated with the COVID-19 pandemic ("COVID-19") and related macroeconomic factors, which may adversely impact our business and clinical trials;
- our expectations regarding the time during which we will be an emerging growth company under the Jumpstart Our Business Startups Act, or the JOBS Act;
- our plans to identify additional product candidates with significant commercial potential that are consistent with our commercial objectives;
- our estimates and statements regarding our future revenue, future results of operations, and financial position;
- the sufficiency of our cash and cash equivalents to fund our operations;
- our remediation of a material weakness;
- our business strategy;
- our research and development costs; and
- the plans and objectives of management for future operations.

These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “expect,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “contemplate,” “believe,” “estimate,” “predict,” “potential,” “would” or “continue” or the negative of these terms or other similar expressions, although not all forward-looking statements contain these words. The forward-looking statements in this Annual Report on Form 10-K are only predictions and are based largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition, and results of operations. These forward-looking statements speak only as of the date of this Annual Report on Form 10-K and are subject to a number of known and unknown risks, uncertainties, and assumptions, including those described under the sections in this Annual Report on Form 10-K entitled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and elsewhere in this Annual Report on Form 10-K. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements.

Moreover, we operate in an evolving environment. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties. You should read this Annual Report on Form 10-K and the documents that we reference in this Annual Report on Form 10-K completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of our forward-looking statements by these cautionary statements. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances, or otherwise.

SUMMARY RISK FACTORS

Our business is subject to numerous risks and uncertainties, including those described in Part I, Item 1A. “Risk Factors” in this Annual Report on Form 10-K. You should carefully consider these risks and uncertainties when investing in our common stock. The principal risks and uncertainties affecting our business include the following:

- we have a limited operating history and a history of escalating operating losses, which may make it difficult to evaluate the prospects for our future viability;
 - we currently intend to manufacture clinical materials in-house, but we may rely on third parties for the manufacture of materials for our research programs, pre-clinical studies and clinical trials and we do not have long-term contracts with any of these parties. Any inability to scale up our internal capabilities, or our reliance on third parties increases the risk that we will not have sufficient quantities of such materials, product candidates, or any therapies that we may develop and commercialize, or that such supply will not be available to us at an acceptable cost, which could delay, prevent, or impair our development or commercialization efforts;
 - we have incurred significant losses since inception and expect to incur significant additional losses for the foreseeable future. We may never achieve profitability;
 - we will need significant additional funding in order to complete development of and obtain regulatory approval for our product candidates and commercialize our products, if approved. If we are unable to raise capital when needed, we could be forced to delay, reduce, or eliminate our product development programs or commercialization efforts;
 - our business is highly dependent on the success of our most advanced product candidate, LYR-210, which will require significant additional clinical testing before we can seek regulatory approval and potentially launch our product. If LYR-210 does not receive regulatory approval or is not successfully commercialized, or is significantly delayed in doing so, our business will be harmed;
 - we identified a material weakness in our internal control over financial reporting that resulted in a restatement of our unaudited interim condensed consolidated financial statements as of and for the three months ended March 31, 2022 and as of and for the three and six months ended June 30, 2022. This material weakness, if not remediated, could adversely affect our business, our stock price and our ability to report our results of operations and financial condition accurately and in a timely manner;
 - managing our obligations under our license and other strategic agreements may divert management time and attention, causing delays or disruptions to our business;
 - our operating activities may be restricted by certain covenants in our license and strategic agreements, which could limit our development and commercial opportunities;
 - failure to obtain marketing approval in international jurisdictions would prevent our products from being marketed in such jurisdictions;
 - we have entered into a collaboration, and may enter into collaborations, that place the development and commercialization of our product candidates outside our control, require us to relinquish important rights or may otherwise be on terms unfavorable to us, and if our collaborations are not successful, our product candidates may not reach their full market potential;
 - clinical trials required for our product candidates are expensive and time-consuming, their outcome is uncertain, and if our clinical trials do not meet safety or efficacy endpoints in these evaluations, or if we experience significant delays in these trials, our ability to commercialize our product candidates and our financial position will be impaired;
 - developments by competitors may render our products or technologies obsolete or non-competitive or may reduce the size of our markets;
 - the successful commercialization of our product candidates will depend in part on the extent to which governmental authorities and health insurers establish coverage, adequate reimbursement levels and pricing policies. Failure to
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obtain or maintain coverage and adequate reimbursement for our product candidates, if approved, could limit our ability to market those products and decrease our ability to generate revenue;

- even if either LYR-210 or LYR-220 receives marketing approval, it may fail to achieve market acceptance by physicians, patients, third-party payors or others in the medical community necessary for commercial success;
 - we rely on third parties to conduct our pre-clinical studies and clinical trials. Any failure by a third party to conduct the clinical trials according to good clinical practices "GCPs" and in a timely manner may delay or prevent our ability to seek or obtain regulatory approval for or commercialize our product candidates;
 - if we are unable to obtain, maintain, or adequately protect our intellectual property rights, we may not be able to compete effectively in our markets;
 - if we lose key management or scientific personnel, cannot recruit qualified employees, directors, officers, or other significant personnel, or experience increases in our compensation costs, our business may materially suffer; and
 - the global pandemic caused by COVID-19 has disrupted and may continue to adversely impact our business and operations, including our clinical trials.
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PART I

Unless the context requires otherwise, we use the terms “Lyra,” “the Company,” “we,” “us,” “our” and similar designations in this Annual Report on Form 10-K to refer to Lyra Therapeutics, Inc. and its wholly-owned subsidiary.

Item 1. Business.

Overview

We are a clinical-stage biotechnology company focused on the development and commercialization of therapies for the localized treatment of patients with chronic rhinosinusitis, or CRS. Our proprietary technology is designed to consistently deliver medicines directly to the affected tissue for sustained periods with a single administration. Our product candidates, LYR-210 and LYR-220, are bioresorbable polymeric matrices designed to be administered in a brief, non-invasive, in-office procedure and intended to deliver up to six months of continuous anti-inflammatory drug therapy to the sinonasal passages for the treatment of CRS. The drug embedded within LYR-210 and LYR-220 is mometasone furoate, or MF, which is the active ingredient in various U.S. Food and Drug Administration, or FDA, approved drugs and has a well-established efficacy and safety profile. CRS is an inflammatory disease of the paranasal sinuses which leads to debilitating symptoms and significant morbidities and affects approximately 14 million people in the United States.

LYR-210

LYR-210 is designed to treat CRS patients both with and without nasal polyps who have failed previous medical management and have not undergone endoscopic sinus surgery. A pivotal Phase 3 program of LYR-210, called the ENLIGHTEN program, consists of two pivotal trials and is currently ongoing.

LYR-220

We are developing our second pipeline product candidate, LYR-220, for use in CRS patients who continue to require treatment to manage CRS symptoms despite having had sinus surgery. LYR-220 is also designed to utilize MF, and employs a larger matrix designed for patients whose nasal cavity is enlarged due to sinus surgery. A Phase 2 clinical trial of LYR-220, called BEACON, is currently ongoing.

Our Technology

Our innovative and proprietary drug delivery technology is designed to locally and continuously deliver small molecule drugs to the affected tissue over a sustained period of time from a single administration. The technology is comprised of three interrelated components:

- a biocompatible mesh scaffold, which is designed to maximize surface area for drug release while maintaining underlying tissue function;
- an engineered elastomeric matrix, a polymeric matrix composed of polymers having elastic characteristics, which has advanced physical properties resulting in implants with “shape memory” that dynamically adapt to nasal anatomy; and
- a versatile polymer-drug complex, which can be customized for the treatment of various chronic diseases treatable with ENT delivery to achieve the desired drug dose and drug elution rate.

Our Strategy

Our mission is to transform the ENT treatment paradigm by utilizing our proprietary technology to develop safe and effective therapies for the treatment of CRS. We intend to achieve this through the following strategies:

- **Complete the development and secure FDA approval of LYR-210 for the treatment of CRS.** We believe LYR-210, if approved, is well positioned in the CRS treatment paradigm. LYR-210, which is being studied in the ongoing Phase 3 ENLIGHTEN clinical program, utilizes MF, the active ingredient in various FDA-approved drugs. We intend to seek marketing approval for LYR-210 through a 505(b)(2) New Drug Application “NDA” submitted to the FDA.

- **Advance our second product candidate, LYR-220, through clinical development to provide a comprehensive solution for CRS patients who have failed medical management and surgery.** We have developed a larger version of LYR-210 designed for use in the enlarged nasal cavity of CRS patients who have had sinus surgery. We believe LYR-220, if successfully developed and approved, is well positioned to provide a preferred alternative to revision surgery and post-surgical medical management. LYR-220 is being studied in the ongoing Phase 2 BEACON clinical trial.
- **Build a commercialization infrastructure in the U.S. market for LYR-210 and LYR-220.** If either of our product candidates are approved, we plan to launch an efficient, go-to-market commercialization model focused on targeted outreach to our key physician, payor, and patient audiences.

Chronic Rhinosinusitis: A Disease with High Unmet Medical Needs

CRS is an inflammatory disease of the paranasal sinuses causing the soft, moist layer of mucus-producing tissue, or mucosa, that lines the sinuses to become swollen and inflamed, leading to significant patient morbidities. The inflammation may be caused by infections, allergies, or environmental factors, as well as structural issues such as blockages of an ostium.

CRS has been described in the literature as an “unrecognized epidemic” due to its high prevalence, its substantial impact on patient quality of life, and the significant limitations of currently available treatment options. We estimate that sinusitis, which includes both CRS and acute rhinosinusitis, impacts approximately 12% of the adult population in the United States, or approximately 30 million people, making it the fifth most common condition in people under the age of 65 and more prevalent than diabetes or heart disease. Of this population, we estimate that approximately 14 million people are affected by CRS. We estimate that approximately 8 million people are treated for CRS by physicians annually, of whom approximately 4 million fail medical management every year.

CRS is grouped into two phenotypes for regulatory purposes: CRS without nasal polyps and CRS with nasal polyps. The non-polyp form of CRS represents approximately 70%-to-90% of CRS patients. Currently there are no approved treatments for CRS patients without polyps.

Current Treatments and Their Limitations

The goals of therapy for CRS are to reduce mucosal swelling resulting from underlying inflammation, promote sinus drainage, and eradicate infections that may be present. The treatment of CRS is progressive in nature and typically begins with medical management, primarily with topical intranasal steroids and oral steroids. Topical intranasal steroids typically do not reach the epicenter of the disease deep in the sinuses, have fast clearance and poor compliance. The systemic complications of oral steroids limit their use. If this treatment is unsuccessful, an ENT physician may perform sinus surgery. Sinus surgery is costly, does not address the underlying inflammation, and is invasive with significant post-operative pain.

Currently, there are no FDA-approved drug therapies for CRS for non-polyp patients, although some drugs approved for nasal polyps are used off-label in this population.

Our Solution for CRS

LYR-210 is an anti-inflammatory implantable drug matrix that is designed to consistently and locally elute MF to the inflamed mucosal tissue for up to six months in surgically naïve CRS patients who fail medical management. MF, the active ingredient in various FDA-approved drugs, has a well-established efficacy and safety profile, which we believe will support the development process for LYR-210. LYR-210 is designed to enable sustained drug delivery at difficult-to-access nasal inflammation sites without the need for patient compliance, while avoiding the systemic side effects associated with oral steroids. LYR-210 is designed to be administered in a brief, non-invasive, in-office procedure by an ENT physician under endoscopic visualization via a single-use applicator. We are developing our second pipeline product candidate, LYR-220, for use in CRS patients who continue to require treatment to manage CRS symptoms despite having had sinus surgery. LYR-220 is also designed to utilize MF, and employs a larger matrix designed for patients whose nasal cavity is enlarged due to sinus surgery. LYR-220 is designed as a potential preferred alternative to revision sinus surgery and post-surgical medical management.



We believe that the key potential benefits of our current investigational product portfolio, LYR-210 and LYR-220, include:

- **Clinical Activity:** We believe LYR-210 and LYR-220 have the potential to significantly improve symptoms by maintaining a steady, high dose of MF at the site of inflammation for up to six months with a single administration.
- **Patient Compliance:** Because drug delivery for LYR-210 and LYR-220 is designed to be sustained for up to six months with a single administration, the efficacy of LYR-210 and LYR-220 will not depend on patient compliance within the treatment period, unlike other CRS treatment options that require repeated daily administrations, such as topical intranasal steroids and oral steroids.
- **Patient Experience:** LYR-210 and LYR-220 are designed to be administered via a simple, brief, non-invasive in-office procedure every six months, which is intended to enhance convenience for patients, unlike the repeated daily medical management and/or time-consuming and painful surgery required by certain other CRS treatment options. Moreover, we believe patients may also benefit from the biocompatible, flexible structure of LYR-210 and LYR-220 that is designed to maximize comfort over the therapy period.
- **Physician Experience:** LYR-210 and LYR-220 are designed to enable physicians to perform the placement of LYR-210 and LYR-220 in-office in conjunction with an endoscopy procedure, thereby making the placement aligned with the existing care continuum for CRS patients and eliminating the need for physicians to schedule separate surgical time. Moreover, the elastomeric matrix encapsulates the underlying mesh fibers to facilitate removal.
- **Localized Delivery:** LYR-210 and LYR-220 are designed to benefit from our technology, which is intended to provide localized delivery to avoid systemic side effects that are common with certain other CRS treatment options, such as oral steroids.
- **Patient Applicability:** LYR-210 and LYR-220 are designed to treat the entire spectrum of CRS patients who have failed medical management, including pre- and post-surgical patients and patients with and without nasal polyps.
- **Pharmacoeconomic Impact:** LYR-210 and LYR-220 are designed as an alternative to surgery (initial or revision), and as such have the potential to provide significant savings to the healthcare industry by reducing the number and frequency of expensive surgical and biologic treatment options.

We believe LYR-210 and LYR-220, if approved, would be the only products able to deliver up to six months of continuous topical treatment in a single administration to treat the broad spectrum of CRS patients who fail medical management, including pre- and post-surgery patients.

Our Clinical Pipeline

The current status of our clinical product candidates is summarized below.

Candidate	CRS Patient Type	Phase 2	Phase 3
LYR-210 Long-acting Mometasone Furoate	Chronic Rhinosinusitis Patients with Surgically Naïve Anatomy		
LYR-220 Long-acting Mometasone Furoate	Chronic Rhinosinusitis Patients with Post-Surgical Anatomy		

LYR-210 for the Treatment of CRS

We believe LYR-210, if successfully developed and approved, has the potential to become a preferred alternative to surgery for the treatment of CRS. It is the only product candidate that we are aware of that is designed to provide up to six months of local delivery of anti-inflammatory medication with a single administration. The brief, non-invasive, in-office procedure allows for its implantation without the need for surgery. Further, we believe our studies have shown that LYR-210 has the potential to be an effective treatment for both patients with and without polyps. We believe LYR-210 has the potential to be a safe, effective, and broadly applicable CRS treatment, designed to enhance patient comfort and physician experience and eliminate patient compliance issues associated with other CRS treatments, such as intranasal steroid sprays, while achieving reduced costs compared to other CRS treatments, such as sinus surgery.

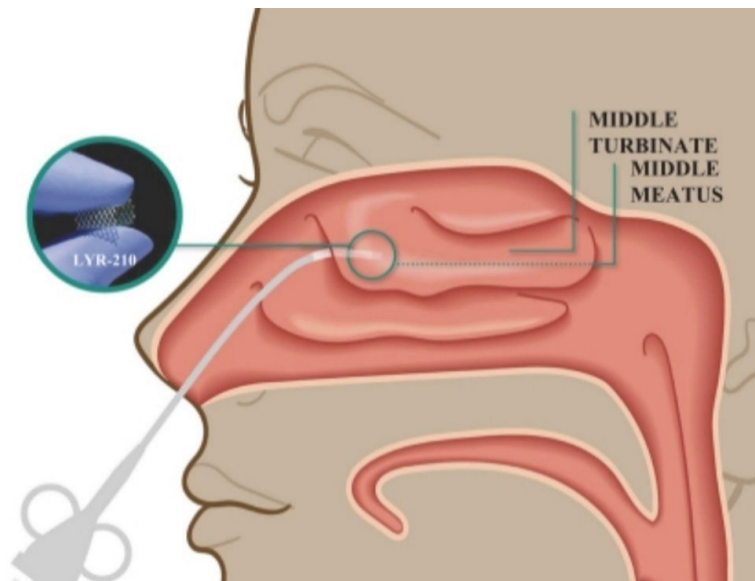


Figure 3. Illustration of Placement of LYR-210 in Middle Meatus.

LYR-210 is an investigational local drug delivery system designed to fit within, and conform to, the confined space of a surgically naïve patient’s middle meatus, an air-containing space that plays a fundamental role in drainage of the paranasal sinuses (see Figure 3, above). LYR-210 consists of MF, the active ingredient in various FDA-approved drugs, embedded in biocompatible polymers to aid in the controlled and sustained delivery of MF to the sinonasal mucosal tissue from a single drug administration. LYR-210 has a tubular braid configuration with a uniform diamond pattern throughout and is 13 mm in diameter and 10 mm in length in the unconstrained state. It has elastic properties to promote patient comfort and is designed to be self-retaining against the mucosal tissue to allow effective drug transfer.

LYR-210 is intended to be administered bilaterally into the non-operated middle meatus by an ENT physician under endoscopic visualization via a provided, single use applicator. It is designed for office-based administration performed with topical anesthesia. Once administered, LYR-210 is designed to gradually release MF to the inflamed mucosal tissue for up to six months from a single administration. LYR-210 can be removed at six months or earlier at the physician’s discretion using standard instruments and, if needed, replaced with a new LYR-210. LYR-210 is made with bioresorbable polymers that, if left in place, would gradually dissolve over time.

Overview of Our Clinical Development for LYR-210

The table below summarizes our completed and ongoing clinical trials for LYR-210 for CRS in patients who have failed medical management and have not undergone endoscopic sinus surgery.

Trial	Status	Trial Design	Trial Objectives	Trial Results
Phase 1	Completed	<ul style="list-style-type: none"> Prospective, multi-center, non-randomized, single-arm, open-label clinical trial 25-week trial, including 24 week treatment period, plus one week post-removal Bilateral 2,500 µg dose 20 patients 5 study sites 	<ul style="list-style-type: none"> Study objective: Evaluate the safety and feasibility over 24 weeks of continuous anti-inflammatory treatment with a single administration of LYR-210 Primary endpoint: Product-related serious adverse events from baseline to 4 weeks post-procedure Additional data collected: Morning serum cortisol, change in intraocular pressure, plasma pharmacokinetics, quality of life by SNOT-22 (secondary endpoint), endoscopy and MRI 	<ul style="list-style-type: none"> Primary safety endpoint achieved / 2,500 µg was well tolerated during entire duration of treatment Significant improvement from baseline in SNOT-22 scores was observed from week 1 through week 25 Average change in baseline SNOT-22 score at week 1 was -13.0 points (P= 0.008 to pre-treatment) Symptom relief, as measured by SNOT-22 score, was observed through the entire duration of study, achieving an average change from baseline of -20.5 points at week 24 (p < 0.0001 to pre-treatment), which was the end of the treatment period, and -20.0 (p < 0.0001) at week 25, which was the end of the study
Phase 2 (LANTERN)	Completed	<ul style="list-style-type: none"> Randomized, blinded, sham-controlled, dose-ranging, parallel-group clinical trial 24-week treatment period, plus 24 week safety follow up post-removal Bilateral 2,500 µg or 7,500 µg dose 99 evaluable patients with the option to increase to up to 150 patients. Enrollment discontinued at 67 patients due to COVID-19 Up to 50 study sites globally 	<ul style="list-style-type: none"> Primary endpoint: Change from baseline in composite score of 7-day average of 4 cardinal symptoms (4CSS) at week 4 Secondary objectives: Symptom improvement at week 24, sinus imaging to assess reduction in inflammation, SNOT-22, time to treatment failure, reduction in inflammation, frequency of exacerbations, pharmacokinetics/pharmacodynamics 	<ul style="list-style-type: none"> At the 7,500 µg dose, LYR-210 achieved statistically significant improvement in 4CSS in favor of the treatment arm as measured by the change from baseline at week 16 (-1.47) (p=0.021), week 20 (-1.61) (p=0.012) and week 24 (-1.64) (p=0.016). At the 7,500 µg dose, LYR-210 achieved statistically significant improvement in SNOT-22 score in favor of the treatment arm as measured by the change from baseline at week 8 (-12.2) (p=0.039), week 16 (-15.0) (p=0.008), week 20 (-18.4) (p=0.001) and week 24 (-19.0) (p=0.001). Although a strong treatment effect was observed at week 4, LYR-210 did not achieve the primary endpoint of change from baseline in 4CSS at week 4 at either the 7,500 µg dose (-0.36) (p=0.306) or 2,500 µg dose (0.04)

Trial	Status	Trial Design	Trial Objectives	Trial Results
PK Characterization Study	Completed	<ul style="list-style-type: none"> • 24 patients in the United States with bilateral 2,500 µg or 7,500 µg dose 	<ul style="list-style-type: none"> • Pharmacokinetic timepoints through 56 days, safety, SNOT-22 	<p>(p=0.525). We believe this was due primarily to the discontinuation of enrollment related to COVID-19.</p> <ul style="list-style-type: none"> • LYR-210 delivered a constant daily dose of MF over 56 days without a drug burst • Steady state plasma concentrations were 41.2 pg/mL and 12.2 pg/mL in the 7,500 µg and 2,500 µg dose groups respectively • Clinically relevant improvement from baseline in SNOT-22 observed within 2 weeks • LYR-210 safe and well tolerated with no serious adverse events
Phase 3 (ENLIGHTEN I)	Initiated February 2022	<ul style="list-style-type: none"> • Randomized, blinded, sham-controlled, parallel-group clinical trial • 52-week trial duration: 24-week treatment period, followed by a safety extension period involving crossover treatment for control patients and 1:1 re-randomization to control or repeat treatment for LYR-210 patients • Approximately 180 adult CRS patients who have failed prior medical management and 2:1 randomization (bilateral LYR-210 7,500 µg): sham procedure • Up to 60 sites worldwide 	<ul style="list-style-type: none"> • Primary endpoint: Change from baseline in composite score of 7-day average of 3 cardinal symptoms at week 24 • Secondary objectives: Change from baseline in individual cardinal symptoms at week 24, CFBL in CT sinus opacification score at week 24, CFBL in SNOT-22 at week 24, rescue treatment use through week 24 	<ul style="list-style-type: none"> • Recruiting
Phase 3 (ENLIGHTEN II)	Initiated September 2022	<ul style="list-style-type: none"> • Randomized, blinded, sham-controlled, parallel-group clinical trial • 24-week treatment period • Approximately 180 adult CRS patients who have failed prior medical management 2:1 randomization (bilateral LYR-210 (7,500 µg)): sham procedure • Up to 60 sites worldwide 	<ul style="list-style-type: none"> • Primary endpoint: Change from baseline in composite score of 7-day average of 3 cardinal symptoms at week 24 • Secondary objectives: Change from baseline in individual cardinal symptoms at week 24, CFBL in CT sinus opacification score at week 24, CFBL in SNOT-22 at week 24, rescue treatment use through week 24 	<ul style="list-style-type: none"> • Enrollment paused; expected to resume in the second quarter of 2023

Phase 3

The LYR-210 Phase 3 program consists of two pivotal trials – ENLIGHTEN I and ENLIGHTEN II. ENLIGHTEN I is a 52-week, multi-center, randomized, blinded, sham-controlled trial designed to evaluate the efficacy and safety of LYR-210 in approximately 180 surgically naïve CRS who have failed prior medical management. The trial consists of three stages – a 2- to 4-week screening and run-in stage, a 24-week treatment stage followed by a 28-week safety extension stage. In the treatment stage, patients are randomized 2:1 to receive LYR-210 (7,500 µg) or sham-procedure. At the end of the treatment stage, patients in the control group receive crossover LYR-210 treatment while patients in the

LYR-210 group are re-randomized 1:1 to either receive a crossover sham-procedure or a repeat treatment with LYR-210 (7,500 µg). The ENLIGHTEN I trial was initiated in February 2022.

ENLIGHTEN II is a 24-week, multi-center, randomized, blinded, sham-controlled trial designed to evaluate the efficacy and safety of LYR-210 in approximately 180 surgically naïve CRS patients who have failed prior medical management. The trial consists of two stages – a 2- to 4-week screening and run-in stage and a 24-week treatment stage. Patients are randomized 2:1 to receive LYR-210 (7,500 µg) or sham-procedure. ENLIGHTEN II was initiated in September 2022.

The primary endpoint of both ENLIGHTEN I and ENLIGHTEN II is change from baseline (CFBL) at week 24 in the composite score of 3 cardinal symptoms (3CS) score. The 3CS are nasal blockage/obstruction/congestion, anterior/posterior nasal discharge, and facial pain/pressure. Secondary endpoints include CFBL in individual cardinal symptoms at week 24, CFBL in CT sinus opacification score at week 24, CFBL in SNOT-22 at week 24, rescue treatment use through week 24.

On November 8, 2022, we announced a pause in enrollment of ENLIGHTEN II to align with internal manufacturing timelines for clinical trial supply. We will focus our resources on the timely completion of ENLIGHTEN I during this period. Moving forward, we intend to utilize our internal manufacturing capabilities in order to supply the entire ENLIGHTEN clinical program and mitigate any further risk to overall program timelines. We believe that focusing on our internal manufacturing capabilities reduces risk associated with technology transfer to third parties. We expect to resume enrollment in ENLIGHTEN II in the second quarter of 2023.

Phase 2

Our Phase 2 LANTERN clinical trial for LYR-210 was initiated in May 2019. The clinical trial was designed as a multi-center, randomized, controlled, patient blinded trial. The study was designed to enroll 99 evaluable patients with the option to expand to up to 150 patients at up to 30 sites in the United States, Australia, Austria, Czech Republic, New Zealand, and Poland. Due to COVID-19, we discontinued enrollment at 67 patients and did not open any sites in the United States.

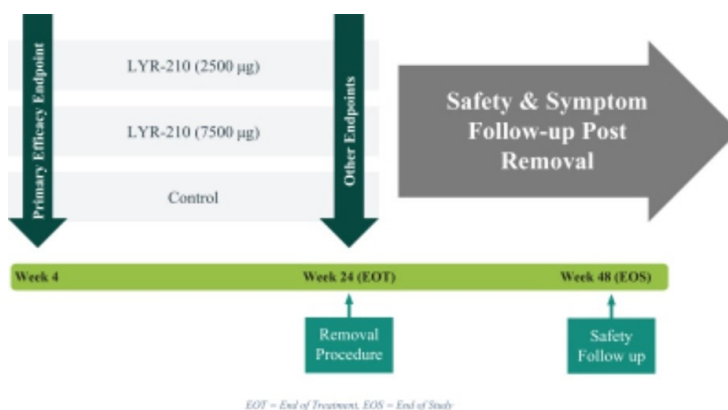


Figure 4. Design of Phase 2 LANTERN Clinical Trial for LYR-210.

The trial consisted of three arms with a 1:1:1 randomization: (1) an experimental arm with bilateral placement of 2,500 µg of LYR-210, with 23 patients; (2) an experimental arm with bilateral placement of 7,500 µg of LYR-210, with 21 patients; and (3) a control arm with a bilateral sham procedure only, with 23 patients (see Figure 4, above). In addition, subjects were supplied with saline for daily nasal irrigation treatment during the course of the treatment period and were permitted to use rescue medication if deemed medically necessary by their physician.

The primary endpoint of the trial was a change from baseline in the 7-day average scores of the 4CSS at week 4. Because the FDA prefers a composite score of the cardinal symptoms of CRS for patients with CRS, we utilized the 4CSS for the trial. The 4CSS is comprised of four domains that are scored 0-3 with a total score of 12. The four domains are: (1) nasal obstruction and congestion; (2) facial pain and pressure; (3) nasal discharge; and (4) olfactory loss (loss of sense of smell).

The key secondary endpoints for the trial were the change from baseline in 7-day average 4CSS at week 24, time to treatment failure, and percentage of subjects with at least 1-point decrease in the bilateral Zinreich score (a measure of inflammation) in at least one pair of the anterior ethmoid, maxillary, posterior ethmoid, frontal, or sphenoid sinuses at Week 24.

In December 2020, we reported positive topline results from our Phase 2 LANTERN clinical trial. In our readout of top-line results, we reported that, at the 7,500 µg dose, LYR-210 achieved statistically significant improvement in 4CSS in favor of the treatment arm as measured by the change from baseline at week 16 (-1.47) (p=0.021), week 20 (-1.61) (p=0.012), and week 24 (-1.64) (p=0.016) (see Figure 5, below). However, although a strong treatment effect was observed at week 4, LYR-210 did not achieve the primary endpoint of change from baseline in 4CSS at week 4 at either the 7,500 µg dose (-0.36) (p=0.306) or 2,500 µg dose (0.04) (p=0.525). We believe this was due primarily to the discontinuation of enrollment related to the COVID-19 pandemic. As a result of the decrease in the number of patients enrolled from planned (99 evaluable) to actually enrolled (67), a greater magnitude of change from baseline in 4CSS at week 4 and/or a smaller standard deviation associated with the change from baseline at week 4 was required in order to achieve statistical significance for the primary endpoint.

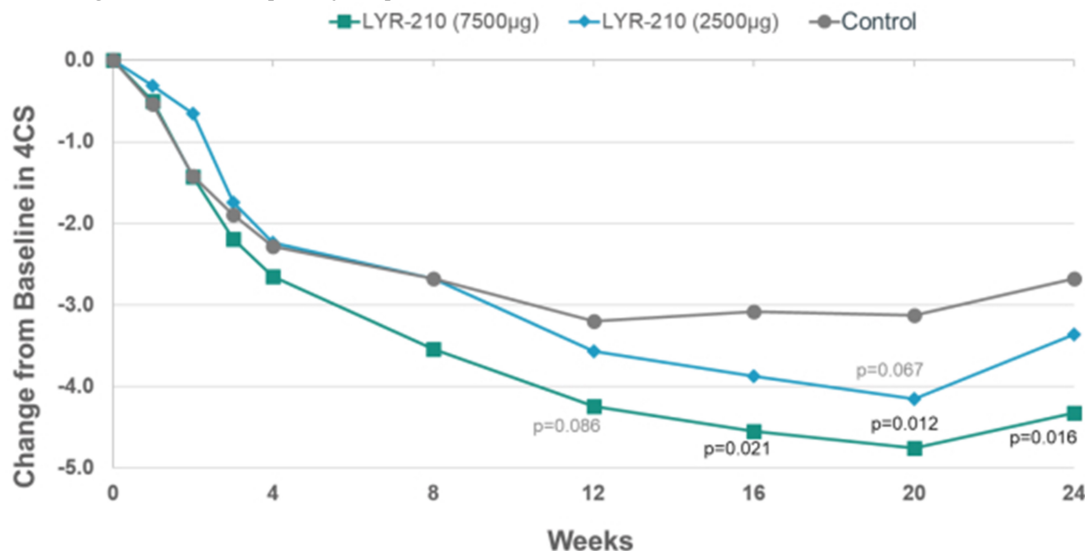


Figure 5. Total Symptom Improvement by 4CSS for Phase 2 LANTERN Clinical Trial.

Furthermore, the 7,500 µg dose of LYR-210 achieved statistically significant improvement in SNOT-22 score in favor of the treatment arm as measured by the change from baseline at week 8 (-12.2) (p=0.039), week 16 (-15.0) (p=0.008), week 20 (-18.4) (p=0.001), and week 24 (-19.0) (p=0.001) (see Figure 6, below). In particular, the improvement of the 7,500 µg dose of LYR-210 at week 24 over the control group (-19.0) was over two times the minimal clinically important difference of -8.9.

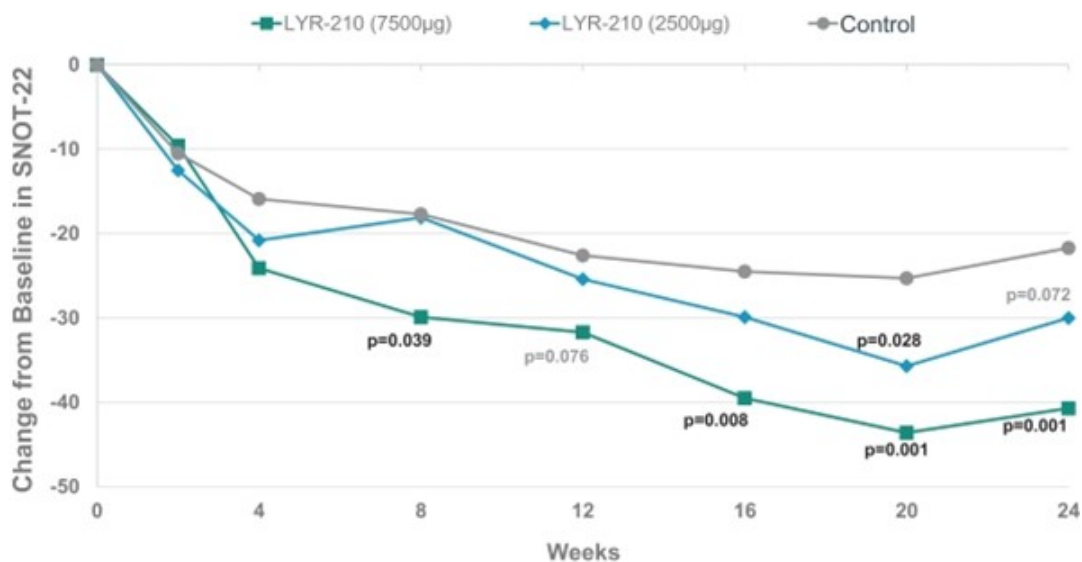


Figure 6. Total Symptom Improvement by SNOT-22 for Phase 2 LANTERN Clinical Trial.

LYR-210 was observed to be safe and well-tolerated at all doses in the trial. There was one serious adverse event, which was deemed to be unrelated to LYR-210. No treatment-related serious adverse events were reported. Treatment-related adverse events included epistaxis, rhinitis, rhinorrhea, and headache. All treatment-related adverse events were generally mild to moderate in nature, other than one incident of increased viscosity of upper respiratory secretion in the 2,500 µg dose treatment arm, and in line with the known safety profile of MF.

After 24 weeks, LYR-210 drug matrices were removed, and patients then underwent a 24-week post-treatment follow-up. The main objective of the post-treatment period was to assess long-term safety post-removal. LYR-210 continued to show strong safety through 24 weeks post-treatment with no increased incidence of treatment-related AEs. Approximately 50% of patients experienced a durable response post-removal of LYR-210 (7,500µg), with no worsening of 4CS scores from the Week 24 baseline, compared to approximately 90% of control patients who either experienced a worsening of 4CS scores from the Week 24 baseline or required a rescue treatment.

In addition, because of developments relating to the COVID-19 pandemic, we discontinued enrollment at 67 patients in our Phase 2 LANTERN clinical trial and did not enroll any patients in the United States as planned. The LANTERN Phase 2 manuscript won the Clinical Science Maurice Cottle Award at the 67th Annual Meeting of the American Rhinologic Society (ARS) held in October 2021.

Pharmacokinetic characterization study

The PK study was a 56-day open label, multi-center, U.S. study of the PK and safety of LYR-210 in adult subjects with chronic rhinosinusitis. The primary objective of the study was to establish the PK profile of LYR-210 (see Figure 7, below). The study enrolled 24 patients, half of whom received LYR-210 2,500 µg and the other half received LYR-210 7,500 µg. The study indicated that both doses were safe and well tolerated, with the mean maximum plasma concentration, or C_{max}, observed with the 7,500 µg dose well below the C_{max} established for FDA-approved formulations of mometasone furoate, or MF. MF blood plasma levels observed during the PK study support LYR-210's ability to deliver consistent and steady dosing over the entire treatment period. The PK study was selected as the top clinical abstract at the 67th ARS held in October 2021.

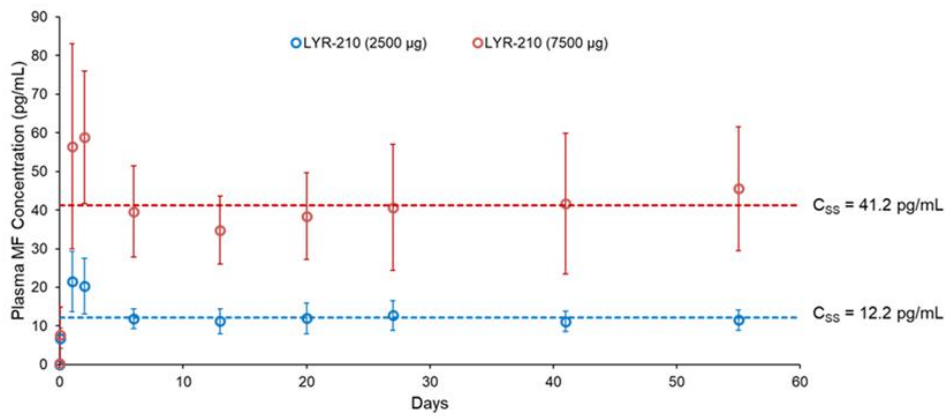


Figure 7. Plasma MF Concentration for Pharmacokinetic Characterization Study.

Phase 1

Our Phase 1 clinical trial for LYR-210 was a prospective, multi-center, non-randomized, single-arm, open-label clinical trial with adult surgically naïve CRS patients who have failed medical management. The objective of the trial was to evaluate safety and feasibility over 24 weeks of continuous anti-inflammatory treatment with a single administration of LYR-210 with an additional measurement taken one week post-removal. The trial was conducted across five sites in New Zealand and Australia. Forty LYR-210 matrices were placed bilaterally in 20 patients with and without nasal polyps. Each matrix contained 2,500 µg of MF. LYR-210 met its primary safety endpoint, and significant and rapid, clinically meaningful and durable improvement on a patient symptom severity scale was observed through 25 weeks.

The Phase 1 trial achieved its primary safety endpoint at week 4. LYR-210 at 2,500 µg was well tolerated by patients during the entire duration of treatment and also gave insight into the successful office-based placement of the matrix and clinical outcomes in non-polyp and polyp patients. There were no reports of unexpected adverse events, or AEs, or local nasal AEs, including epistaxis, nasal burning, nasal dryness, nasal irritation, and nasal septal perforation during the 24-week MF local dosing treatment duration. Additionally, no change in morning serum cortisol levels or intraocular pressures were noted.

The most common reported AEs were nasopharyngitis, upper respiratory tract infection, sinusitis, nasal odor, procedural headache, nasal discomfort, and facial pain. There was one serious adverse event, an acute myocardial infarction, which was deemed to be unrelated to LYR-210.

Significant reduction in SNOT-22 scores was observed at week 1 and this reduction persisted through week 25, the end of the trial.

Similar efficacy was observed in both polyp and non-polyp patients.

LYR-220 for the Treatment of CRS

We are developing our second pipeline product candidate, LYR-220, for use in CRS patients who continue to require treatment to manage CRS symptoms despite having had sinus surgery. LYR-220 is a new investigative therapy for CRS patients with and without nasal polyps that have failed medical management and have had a prior endoscopic sinus surgery. In the treatment paradigm, LYR-220, if approved, is positioned for use in patients post-surgical intervention who continue to have recurrent CRS symptoms or relapse, as a potential preferred alternative to revision surgery. LYR-220 is also

designed to utilize MF, and employs a larger matrix designed for patients whose nasal cavity is enlarged due to sinus surgery. We estimate that 40% of patients that present to an ENT physician with CRS have had a prior surgery. These patients represent the addressable market for LYR-220.

No product is currently approved by the FDA to treat post-surgery CRS patients that do not have polyps, representing the vast majority of such CRS patients. A three-month steroid-eluting sinus implant was approved by the FDA to treat CRS in adults with nasal polyps and three subcutaneously-administered monoclonal antibodies (mAbs) were recently approved as add-on maintenance therapy for uncontrolled disease in adults with nasal polyps. We believe LYR-220 is meaningfully differentiated from currently approved products because, if successfully developed and approved, it would be the only product able to deliver up to six months of topical treatment in a single administration to treat both polyp and non-polyp post-surgery CRS patients who fail medical management. Further, with respect to the mAbs, LYR-220 is differentiated because it would provide localized delivery so as to avoid systemic side effects with the added benefit of being a significantly more economical treatment alternative.

In November 2021, we initiated the Phase 2 BEACON clinical trial for LYR-220 which is a controlled, randomized, parallel-group study to evaluate safety, tolerability, pharmacokinetics, and efficacy comparing two designs of LYR-220 to control over a 24-week period in approximately 40 symptomatic adult CRS subjects who have had a prior bilateral sinus surgery. The trial consists of two parts – Part 1 is designed to assess the feasibility of placement and procedural refinements in up to 10 patients who will receive one of two designs of LYR-220; in Part 2, approximately 40 patients will be randomized 1:1 to receive either one of two designs of LYR-220 or sham procedure. The primary endpoint of the trial is incidence of product-related unexpected serious adverse events. Other safety endpoints include incidence of serious and non-serious adverse events, new or worsening of abnormal clinically significant findings in lab values, ophthalmology exams, and nasal endoscopies. Efficacy endpoints include change from baseline in 3CS, SNOT-22 and other CRS symptoms, CFBL in ethmoid opacification by CT, and use of rescue treatments.

In September 2022, we announced positive initial data from the Part 1, non-randomized portion of the BEACON trial, demonstrating the feasibility and tolerability of LYR-220 placement bilaterally in this patient population. All six patients were treated for at least six weeks and no serious or unexpected product related adverse events have been reported. Enrollment is complete in the Part 2, randomized stage of the BEACON trial.

Our Technology

Our innovative and proprietary drug delivery technology is designed to locally and continuously deliver small molecule drugs to the affected tissue over a sustained period of time from a single administration. Our technology platform, developed over the past decade, was first patented in 2009 by members of our team who have extensive experience in drug formulation and delivery, materials science, and biotechnology. This expertise has allowed us to significantly improve upon polymer drug delivery technology and add shape-memory properties to bioresorbable polymeric implants, one of our key innovations.

Lyra's proprietary drug-eluting matrix

- ⊕ BIOCOMPATIBLE MESH SCAFFOLD**
Maximizes surface area for drug release while maintaining underlying tissue function
- ⊗ ENGINEERED ELASTOMERIC MATRIX**
Dynamically adapts to target anatomy
- ↕ VERSATILE POLYMER-DRUG COMPLEX**
Continuous drug release for long-term dosing

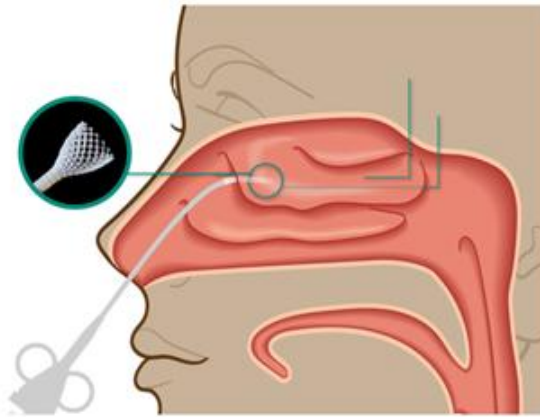


Figure 1. Lyra's Proprietary Drug-Eluting Matrix.

Our drug-eluting bioresorbable technology is comprised of three polymeric components, which are designed to work together to enable highly efficient, localized drug delivery (see Figure 1, above). This proprietary technology is designed to enable sustained delivery of medications for many months of therapy, targeting tissues deep in the ENT passages and potentially other diseased tissues that are not accessible with conventional therapeutic approaches. The components of our technology include:

- **Biocompatible Mesh Scaffold**—our biocompatible mesh scaffold is designed to maximize surface area for drug release while maintaining underlying tissue function. The mesh scaffold is comprised of bioresorbable polymers and is pliable to maximize patient comfort.
- **Engineered Elastomeric Matrix**— our engineered elastomeric matrix, which means a polymeric matrix composed of polymers having elastic characteristics, has advanced physical properties resulting in implants with “shape memory” that dynamically adapt to nasal anatomy and ensure persistent positioning in the target location. The matrix works in conjunction with the underlying mesh to exert outward retention force, keeping it in place as tissue remodels.
- **Versatile Polymer-Drug Complex**— our versatile polymer-drug complex can be customized for the treatment of various chronic diseases treatable with ENT delivery to achieve the desired drug dose and drug elution rate.

The three integrated components are fundamental to the successful function and versatility of the technology. For application to a targeted tissue, the implant is compressed into a narrow applicator, which allows non-invasive placement deep within cavities of the ear, nose, and throat. The shape-memory properties ensure the implant self-expands as it is administered through the applicator to comfortably fit within and adapt to the target anatomy. The implant is designed to be oversized for the target anatomy and therefore will push outwards to stay fixed at the target location. Over time, as inflammation recedes due to the local drug therapy, the shape-memory properties are intended to allow the implant to actively adapt to the anatomy and continue to stay in place to elute drug locally for a prolonged period.

Beyond CRS, we believe our technology has potential applications in other disease areas, which we are exploring to further broaden its therapeutic potential.

Intellectual Property and Barriers to Entry

We own all the material intellectual property rights related to our technology and product candidate portfolio. As of December 31, 2022, our product candidate portfolio is protected by issued and pending patents in the U.S. and major foreign countries with claims directed to devices, systems, and method of use, which, exclusive of possible patent term adjustments or extensions or other forms of exclusivity through 2036.

We also rely upon know-how, continuing technological innovation, and technical barriers to entry, including manufacturing and drug delivery complexities, to develop and maintain our competitive intellectual property position.

Management Team

Our management team has extensive drug development, manufacturing, and commercialization experience across a broad spectrum of disease areas, for both drug and drug-device combination products, with a successful track record in large pharmaceutical, medical device, and biotech companies. Additionally, our management team has been involved in the development of successfully approved and commercialized products including Avonex, Copaxone, Eylea, Rezurock, Taxus (drug-eluting stent), Velcade, and XenMatrix.

Post-Approval Commercialization Strategy

If LYR-210 and LYR-220 are successfully developed and approved, we intend to engage in targeted outreach to our key physician, payor, and patient audiences. ENT physicians are the primary treaters of CRS patients who have failed medical management and thus represent our target physician base. Given the requirement for endoscopic placement of our products, we plan to build a targeted in-house sales force that will target ENT physicians who perform 80% of the CRS procedural volume. Given that LYR-210 and LYR-220 can be administered in a brief, simple, in-office procedure requiring no additional equipment, we anticipate that our sales representatives' time will primarily be directed at educating the ENT physicians around product attributes and patient selection. We plan to supplement our direct physician outreach with appropriate medical education and marketing efforts to further penetrate our physician base and drive adoption of our products.

Ensuring physician and patient market access to our products will be critical to our success, and we plan to execute a holistic reimbursement strategy, consisting of a reimbursement support hub and field-based reimbursement experts, that will integrate payor coverage and physician practice management initiatives. We believe that the primary decision makers from a payor perspective are private payors, which represent approximately 80% of the payor mix for our products. We intend to deploy a market access team to educate payors on the clinical and pharmacoeconomic attributes of our products and to seek to secure favorable coverage policies and to maximize the covered lives that have reimbursement for our products. To maximize access to LYR-210 and LYR-220, we plan to develop a reimbursement support model which aims to reduce physician financial risk associated with physician-administered products.

Subsequent to our initial ENT physician and payor efforts, we also plan to selectively use cost-effective, patient-directed marketing strategies to further increase awareness among the CRS patient community of our products with the goal of increasing ENT physician visits.

On September 26, 2022, we entered into an amended License and Collaboration Agreement, or the LianBio License Agreement with LianBio Inflammatory Limited, or LianBio to develop and commercialize LYR-210 in Greater China (mainland China, Hong Kong, Taiwan, and Macau), South Korea, Singapore and Thailand. Under the terms of the LianBio License Agreement, we received an upfront payment of \$12.0 million and are eligible to receive up to \$135.0 million in future payments based upon the achievement of specified development, regulatory and commercialization milestones. Upon commercialization on a region-by-region basis, we will be entitled to receive low double-digit royalties based on net sales of LYR-210 in the licensed territories. LianBio will be responsible for the clinical development and commercialization of LYR-210 in the licensed territories, and we will retain all rights to LYR-210 in all other geographies. As part of the LianBio License Agreement, LianBio will also have the first right to obtain development and commercial rights in the licensed territories to our LYR-220 product candidate.

Competition

Our industry is highly competitive and subject to rapid and significant technological change as research provides a deeper understanding of the pathology of diseases and new technologies and treatments are developed. We believe our

scientific knowledge, technology, and development capabilities provide us with substantial competitive advantages, but we face potential competition from multiple sources, including large pharmaceutical, biotechnology, specialty pharmaceutical, and, to a lesser degree, medical device companies.

Our competitors may have significantly greater financial resources, robust drug pipelines, established presence in the market, and expertise in research and development, manufacturing, pre-clinical and clinical testing, obtaining regulatory approvals and reimbursement, and marketing approved products than we do. These competitors also compete with us in recruiting and retaining qualified clinical, regulatory, scientific, sales, marketing, and management personnel, in establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies.

LYR-210 and LYR-220 are positioned following the failure of medical management and therefore are not anticipated to compete directly with branded, generic, or over-the-counter inhaled corticosteroids. LYR-210 is positioned for use in surgically naïve CRS patients where the primary competitive treatment is surgical procedures, including endoscopic sinus surgery with and without balloon sinus dilation (BSD) and BSD as a standalone procedure. In this space, LYR-210 would be the only product we are aware of that may deliver six months of local treatment with a single administration as an alternative to surgical interventions. LYR-220 is positioned for use in patients who have had a prior endoscopic sinus surgery, but require ongoing medical management. Currently there are no competitive treatments for post-surgical patients without polyps, which represent the large majority of patients. For patients with polyps, LYR-220 would compete against steroid-releasing sinus implants and mAbs. We believe LYR-220 has competitive advantages over these interventions, including a longer elution profile than the existing sinus implant and no systemic exposure relative to mAbs. Key competitive factors affecting the commercial success of both LYR-210 and LYR-220 and any other product candidates we may develop are likely to be efficacy, safety, and tolerability profile, reliability, convenience of administration, price, and reimbursement.

Sanofi/Regeneron and Optinose are currently seeking to expand the indication of their existing products to include CRS patients without nasal polyps. If these indications are approved by the FDA, they could represent competition for non-polyp patients.

Manufacturing and Supply

We currently manufacture our drug delivery products at our facility in Watertown, Massachusetts with components supplied by external suppliers. This facility enables us to produce clinical trial material for all studies. We perform inspections of these components before use in our manufacturing operations. Using these components, we manufacture, assemble, inspect, and package our implants, and send them to a third-party sterilization vendor. After sterilization, we inspect the product and test via third-party laboratories to determine compliance with our specifications. Upon release of the lot to inventory, the product is labeled and distributed via a third-party vendor to clinical sites.

The API and a number of the components used in our implants are currently supplied to us from single source suppliers. We source our supplies from manufacturers with a track record of compliance with current good manufacturing practices, or cGMP. We rely on single source suppliers for some of our polymer materials, some extrusions, and molded components, and for finished goods testing, labeling, and distribution. Our ability to supply our products and to develop our product candidates depends, in part, on our ability to obtain successfully the API and polymer materials used in these products in accordance with regulatory requirements and in sufficient quantities. We plan to enter into manufacturing, supply, and quality agreements with our single source suppliers. We generally acquire our single source components pursuant to purchase orders placed in the ordinary course of business. We currently maintain sufficient supplies of the API and components from our single source suppliers to support our ongoing development activities. In the future, we intend to maintain sufficient supplies such that our ability to supply the clinic or commercial market will not be compromised and so as to allow for sufficient time necessary to obtain another source of API or components.

We are currently improving our manufacturing capabilities and increasing capacity to support larger scale clinical studies and commercialization.

Intellectual Property

We actively seek to protect the intellectual property and proprietary technology platform that we believe is important to our business, which includes seeking and maintaining patents covering our technology platform and products, and any other inventions that are commercially or strategically important to the development of our business. We also rely

upon trademarks to build and maintain the integrity of our brand, and we seek to protect the confidentiality of trade secrets that may be important to the development of our business. For more information, please see “Risk Factors—Risks Related to Our Intellectual Property.”

Patents and Patent Applications

As of December 31, 2022, we own 24 issued U.S. patents, 16 foreign issued patents, 4 PCT pending applications, 7 U.S. pending applications, and 24 foreign pending applications, out of which 17 issued U.S. patents, 16 foreign issued patents, 7 U.S. pending applications, and 24 foreign pending applications are directed to our technology, LYR-210, and LYR-220.

All technology to our business has been developed in-house and is protected with patents and patent applications in three major lineages, along with the beginning of a fourth, more recent lineage of patent applications. The first lineage dates from 2009 and provides protection potentially until 2030, exclusive of possible patent term adjustments or extensions or other forms of exclusivity. This first lineage includes issued patents in the U.S., Europe, Japan, Canada, and Great Britain that are not limited to any particular drug, site of delivery, or patient condition, but specify features of the implant, delivery system, method, and polymers. The second lineage dates from 2015 and provides protection potentially until 2036, exclusive of possible patent term adjustments or extensions or other forms of exclusivity. This second lineage includes issued patents with ENT-specific method claims directed to the specific drug, site of delivery (i.e., middle meatus), and patient condition, with allowed and issued cases in the U.S., China, and Japan along with numerous pending applications in the U.S., Europe, Japan, Canada, China, and Great Britain. The third lineage dates from 2017 with the prospect of patent protection potentially until 2038, exclusive of possible patent term adjustments or extensions or other forms of exclusivity. This third lineage attempts to capture the products drug release features and patient results from the recent clinical trial. It includes allowed cases in Australia and Great Britain, along with pending applications in the U.S., Canada, Australia, Europe, Korea, Singapore, China, and Japan. The fourth lineage dates from 2021 and provides protection potentially until 2042, exclusive of possible patent term adjustments or extensions or other forms of exclusivity. The fourth lineage is directed to a higher drug load (7500 ug). The lineage stems from a patent application filed under the Patent Cooperation Treaty that will enter the National Phase in September of 2023.

Trademarks and Trade Secrets

We also rely upon trade secrets, know-how, and continuing technological innovation, and may pursue licensing opportunities in the future, to develop and maintain our competitive position. We seek to protect our proprietary rights through a variety of methods, including confidentiality agreements, invention assignment agreements, and non-solicitation and non-compete agreements with suppliers, employees, consultants, and others who may have access to proprietary information.

Government Regulation and Product Approval

Government authorities in the United States, at the federal, state, and local levels, and in other countries extensively regulate, among other things, the research, development, testing, manufacturing, packaging, storage, recordkeeping, labeling, advertising, promotion, distribution, marketing, import, and export of pharmaceutical products such as those we are developing. We will be required to navigate the various preclinical, clinical, and commercial approval requirements of the governing regulatory agencies of the countries in which we wish to conduct studies or seek approval of our product candidates. The processes for obtaining regulatory approvals in the United States and other countries, as appropriate, along with subsequent compliance with appropriate federal, state, local, and foreign statutes and regulations, require the expenditure of substantial time and resources.

U.S. Government Regulation

In the United States, we are subject to extensive regulation by the FDA, which regulates drugs under the Federal Food, Drug, and Cosmetic Act, or the FDCA, and its implementing regulations, and other federal, state, and local regulatory authorities. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local, and foreign statutes and regulations requires 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 a variety of administrative or judicial sanctions, such as the FDA's refusal to approve pending NDAs, withdrawal of an approval, imposition of a clinical hold, issuance of warning or untitled letters, product

recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement, or civil or criminal penalties.

The process required by the FDA before a drug may be marketed in the United States generally involves the following:

- completion of preclinical laboratory tests, animal studies, and formulation studies in compliance with the FDA's Good Laboratory Practice regulations;
- submission to the FDA of an IND which must become effective before human clinical trials may begin;
- approval by an independent institutional review board, or IRB, at each clinical site before each trial may be initiated;
- performance of adequate and well-controlled human clinical trials in accordance with good clinical practice, or GCP, requirements to establish the safety and efficacy of the proposed drug product for each indication;
- submission to the FDA of an NDA;
- satisfactory completion of an FDA advisory committee review, if applicable;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the product is produced to assess compliance with cGMP requirements and to assure that the facilities, methods, and controls are adequate to preserve the drug's identity, strength, quality, and purity;
- satisfactory completion of an FDA inspection of the manufacturing facility at which the drug is produced and selected clinical sites to assess compliance with current Good Manufacturing Practice, or cGMP, regulations; GCPs; and the integrity of the clinical data;
- payment of user fees; and
- FDA review and approval of the NDA.

We are developing our product candidates using an innovative drug delivery technology comprised of a mesh scaffold, an elastomeric matrix, and a polymer-drug complex delivered through a narrow applicator. In the United States, products composed of components that would normally be regulated by different centers at the FDA are known as combination products. Typically, the FDA's Office of Combination Products assigns a combination product to a specific Agency Center as the lead reviewer. The FDA determines which Center will lead a product's review based upon the product's primary mode of action. Depending on the type of combination product, its approval, clearance, or licensure may usually be obtained through the submission of a single marketing application. We anticipate that LYR-210 and LYR-220 will be regulated as drugs, and for each product candidate, the FDA will permit a single regulatory submission seeking approval. However, the FDA sometimes will require separate marketing applications for individual constituent parts of the combination product which may require additional time, effort, and information. Even when a single marketing application is required for a combination product, such as an NDA for a combination pharmaceutical and device product, both the FDA's Center for Drug Evaluation and Research and the FDA's Center for Devices and Radiological Health may participate in the review. An applicant will also need to discuss with the Agency how to apply certain premarket requirements and post-marketing regulatory requirements, including conduct of clinical trials, adverse event reporting, and cGMPs, to their combination product.

Preclinical Studies

Preclinical studies include laboratory evaluation of product chemistry, toxicity, and formulation, as well as animal studies to assess potential safety and efficacy. An IND sponsor must submit the results of the preclinical tests, together with manufacturing information, analytical data, and any available clinical data or literature, among other things, to the FDA as part of an IND. Some preclinical testing may continue even after the IND is submitted. An IND automatically becomes effective, and a clinical trial proposed in the IND may begin 30 days after the FDA receives the IND, unless before

that time the FDA raises concerns or questions related to one or more proposed clinical trials and places the clinical trial on a clinical hold. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. As a result, submission of an IND may not result in the FDA allowing clinical trials to commence.

Clinical Trials

Clinical trials involve the administration of the investigational new drug to human subjects under the supervision of qualified investigators in accordance with GCP requirements, which include the requirement that all research subjects provide their informed consent in writing for their participation in any clinical trial. Clinical trials are conducted under protocols detailing, among other things, the objectives of the trial, the parameters to be used in monitoring safety, and the effectiveness criteria to be evaluated. A protocol for each clinical trial and any subsequent protocol amendments must be submitted to the FDA as part of the IND. An IRB at each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution, and the IRB must continue to oversee the clinical trial while it is being conducted. Information about certain clinical trials must be submitted within specific timeframes to the National Institutes of Health, or NIH, for public dissemination on their www.clinicaltrials.gov website.

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

- Phase 1: The drug is initially introduced into healthy human subjects or patients with the target disease or condition and tested for safety, dosage tolerance, absorption, metabolism, distribution, excretion, and, if possible, to gain an early indication of its effectiveness.
- Phase 2: The drug is administered to 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 and optimal dosage.
- Phase 3: The drug is administered to an expanded patient population, generally at geographically dispersed clinical trial sites, in well-controlled clinical trials to generate enough data to statistically evaluate the efficacy and safety of the product for approval, to establish the overall risk-benefit profile of the product, and to provide adequate information for the labeling of the product.
- Phase 4: In some cases, the FDA may conditionally approve an NDA for a product candidate on the sponsor's agreement to conduct additional clinical trials after NDA approval. In other cases, a sponsor may voluntarily conduct additional clinical trials post approval to gain more information about the drug. Such post-approval trials are typically referred to as Phase 4 clinical trials.

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA, and more frequently if serious adverse events occur. Phase 1, Phase 2, and Phase 3 clinical trials may not be completed successfully within any specified period, or at all. Furthermore, the FDA or the sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients.

Concurrent with clinical trials, companies usually complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the product and 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 product candidate and, among other things, the manufacturer must develop methods for testing the identity, strength, quality, and purity of the final product. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over its shelf life.

Marketing Approval

Assuming successful completion of the required clinical testing, the results of the preclinical and clinical studies, together with detailed information relating to the product's chemistry, manufacture, controls, and proposed labeling, among other things, are submitted to the FDA as part of an NDA requesting approval to market the product for one or more

indications. In most cases, the submission of an NDA is subject to a substantial application user fee. Under the Prescription Drug User Fee Act, or PDUFA, guidelines that are currently in effect, the FDA has a goal of 10 months to review and act on a standard NDA and 6 months to review and act on a priority NDA, measured from the “filing” date for an NDA for a new molecular entity, or NME, or from the receipt date for an NDA for a non-NME product. Measuring from the “filing” date typically adds approximately two months to the timeline for review and decision because the FDA has sixty days from receipt to make a “filing” decision, as described below.

In addition, under the Pediatric Research Equity Act of 2003 as amended and reauthorized, certain NDAs or supplements to an NDA must contain data that are adequate 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, on its own initiative or at the request of the applicant, grant deferrals for submission of some or all pediatric data until after approval of the product for use in adults, or full or partial waivers from the pediatric data requirements.

The FDA also may require submission of a risk evaluation and mitigation strategy, or REMS, plan to ensure that the benefits of the drug outweigh its risks. The REMS plan could include medication guides, physician communication plans, assessment plans, and/or elements to assure safe use, such as restricted distribution methods, patient registries, or other risk minimization tools.

The FDA conducts a preliminary review of all NDAs within the first 60 days after submission, before accepting them for filing, to determine whether they are sufficiently complete to permit substantive review. The FDA may request additional information rather than accept an NDA for filing. In this event, the application must be resubmitted with the additional information. The resubmitted application is also subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA reviews an NDA to determine, among other things, whether the drug is safe and effective and whether the facility in which it is manufactured, processed, packaged, or held meets standards designed to assure the product’s continued safety, quality, and purity.

The FDA may refer an application for a novel drug to an advisory committee. An advisory committee is a panel of independent experts, including clinicians and other scientific experts, that reviews, evaluates, and provides 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.

Before approving an NDA, the FDA typically will inspect the facility or facilities where the product is manufactured. The FDA will not approve an application 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 may inspect one or more clinical trial sites to assure compliance with GCP requirements.

The FDA generally accepts data from foreign clinical trials in support of an NDA if the trials were conducted under an IND. If a foreign clinical trial is not conducted under an IND, the FDA nevertheless may accept the data in support of an NDA if the study was conducted in accordance with GCP requirements and the FDA is able to validate the data through an on-site inspection, if deemed necessary. Although the FDA generally requests that marketing applications be supported by some data from domestic clinical studies, the FDA may accept foreign data as the sole basis for marketing approval if (1) the foreign data are applicable to the U.S. population and U.S. medical practice, (2) the studies were performed by clinical investigators with recognized competence, and (3) the data may be considered valid without the need for an on-site inspection or, if the FDA considers the inspection to be necessary, the FDA is able to validate the data through an on-site inspection or other appropriate means.

The testing and approval process for an NDA requires substantial time, effort, and financial resources, and each may take several years to complete. Data obtained from preclinical and clinical testing are not always conclusive and may be susceptible to varying interpretations, which could delay, limit, or prevent regulatory approval. The FDA may not grant approval on a timely basis, or at all.

After evaluating the NDA and all related information, including the advisory committee recommendation, if any, and inspection reports regarding the manufacturing facilities and clinical trial sites, the FDA may issue an approval letter, or, in some cases, a complete response letter. A complete response letter generally contains a statement of specific conditions that must be met to secure final approval of the NDA and may require additional clinical testing, preclinical testing, manufacturing, or formulation modifications or other changes in order for the FDA to reconsider the application. Even with

submission of this additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval. If and when those conditions have been met to the FDA's satisfaction, the FDA will typically issue an approval letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications.

Even if the FDA approves a product, it may limit the approved indications for use of the product, require that contraindications, warnings, or precautions be included in the product labeling, require that post-approval studies, including Phase 4 clinical trials, be conducted to further assess a drug's safety after approval, require testing and surveillance programs to monitor the product after commercialization, or impose other conditions, including distribution and use restrictions or other risk management mechanisms under a REMS, which can materially affect the potential market and profitability of the product. The FDA may prevent or limit further marketing of a product based on the results of post-marketing studies or surveillance programs. After approval, some types of changes to the approved product, such as adding new indications, manufacturing changes, and additional labeling claims, are subject to further testing requirements and FDA review and approval.

The Hatch-Waxman Amendments

Our current regulatory strategy is to pursue development of LYR-210 as a Section 505(b)(2) NDA. As an alternative path to FDA approval for modifications to formulations or uses of drugs previously approved by the FDA, an applicant may submit an NDA under Section 505(b)(2) of the FDCA. Section 505(b)(2) was enacted as part of the Hatch-Waxman Amendments. A Section 505(b)(2) NDA is an application that contains full reports of investigations of safety and effectiveness, but where at least some of the information required for approval comes from studies not conducted by, or for, the applicant and for which the applicant has not obtained a right of reference or use from the person by or for whom the investigations were conducted. This type of application permits reliance for such approvals on literature or on an FDA finding of safety, effectiveness, or both for an approved drug product. As such, under Section 505(b)(2), the FDA may rely, for approval of an NDA, on data not developed by the applicant. Therefore, if we can satisfy the conditions required for a Section 505(b)(2) NDA submission, it may eliminate the need for us to conduct some of the preclinical studies or clinical trials for the new product candidate that might otherwise have been required, although the review time is not shortened. The FDA may then approve the new product candidate for the new indication sought by the 505(b)(2) applicant.

Orange Book Listing

In seeking approval for a drug through an NDA, applicants are required to list with the FDA certain patents whose claims cover the applicant's product. Upon approval of an NDA, each of the patents listed in the application for the drug is then published in the FDA's Approved Drug Products with Therapeutic Equivalence Evaluations, known as the Orange Book. Any applicant who files an Abbreviated New Drug Application, or ANDA, seeking approval of a generic equivalent version of a drug listed in the Orange Book or a 505(b)(2) NDA referencing a drug listed in the Orange Book must certify, for each patent listed in the Orange Book for the referenced drug, to the FDA that (1) no patent information on the drug product that is the subject of the application has been submitted to the FDA, (2) such patent has expired, (3) the date on which such patent expires, or (4) such patent is invalid or will not be infringed upon by the manufacture, use, or sale of the drug product for which the application is submitted. The fourth certification described above is known as a paragraph IV certification. A notice of the paragraph IV certification must be provided to each owner of the patent that is the subject of the certification and to the holder of the approved NDA to which the ANDA refers. The applicant may also elect to submit a "section viii" statement certifying that its proposed label does not contain (or carves out) any language regarding the patented method-of-use rather than certify to a listed method-of-use patent. This section viii statement does not require notice to the patent holder or NDA owner. There might also be no relevant patent certification.

If the reference NDA holder and patent owners assert a patent challenge directed to one of the Orange Book listed patents within 45 days of the receipt of the paragraph IV certification notice, the FDA is prohibited from approving the application until the earlier of 30 months from the receipt of the paragraph IV certification expiration of the patent, settlement of the lawsuit, or a decision in the infringement case that is favorable to the applicant. Even if the 45 days expire, a patent infringement lawsuit can be brought and could delay market entry, but it would not extend the FDA-related 30-month stay of approval.

The ANDA or 505(b)(2) application also will not be approved until any applicable non-patent exclusivity listed in the Orange Book for the branded reference drug has expired. Specifically, the holder of the NDA for the listed drug may be entitled to a period of non-patent exclusivity, during which the FDA cannot approve an ANDA or 505(b)(2) application that relies on the listed drug. For example, a pharmaceutical manufacturer may obtain five years of non-patent exclusivity

upon NDA approval of an NCE, which is a drug that contains an active moiety that has not been approved by FDA in any other NDA. An “active moiety” is defined as the molecule or ion responsible for the drug substance’s physiological or pharmacologic action. During the five-year exclusivity period, the FDA cannot accept for filing any ANDA seeking approval of a generic version of that drug or any 505(b)(2) NDA for the same active moiety and that relies on the FDA’s findings regarding that drug, except that FDA may accept an application for filing after four years if the follow-on applicant makes a paragraph IV certification. This exclusivity period may be extended by an additional six months if certain requirements are met to qualify the product for pediatric exclusivity, including the receipt of a written request from the FDA that the NDA holder conduct certain pediatric studies, the submission of study reports from such studies to the FDA after receipt of the written request, and satisfaction of the conditions specified in the written request.

Expedited Review and Approval Programs

The FDA has various programs, including Fast Track Designation, accelerated approval, priority review, and breakthrough therapy designation, which are intended to expedite or simplify the process for the development and FDA review of drugs that are intended for the treatment of serious or life threatening diseases or conditions and demonstrate the potential to address unmet medical needs. The purpose of these programs is to provide important new drugs to patients earlier than under standard FDA review procedures.

To be eligible for a Fast Track Designation, the FDA must determine, based on the request of a sponsor, that a product is intended to treat a serious or life-threatening disease or condition and demonstrates the potential to address an unmet medical need. The FDA will determine that a product will fill an unmet medical need if it will provide a therapy where none exists or provide a therapy that may be potentially superior to existing therapy based on efficacy or safety factors. The FDA may review sections of the NDA for a fast track product on a rolling basis before the complete application is submitted if the sponsor provides a schedule for the submission of the sections of the NDA, the FDA agrees to accept sections of the NDA and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the NDA.

The FDA may give a priority review designation to drugs that offer major advances in treatment, or provide a treatment where no adequate therapy exists. A priority review means that the goal for the FDA to review an application is six months, rather than the standard review of ten months under current PDUFA guidelines. Under the new PDUFA agreement, these six and ten month review periods are measured from the “filing” date rather than the receipt date for NDAs for new molecular entities, which typically adds approximately two months to the timeline for review and decision from the date of submission. Most products that are eligible for Fast Track Designation are also likely to be considered appropriate to receive a priority review.

In addition, products studied for their safety and effectiveness in treating serious or life-threatening illnesses and that provide meaningful therapeutic benefit over existing treatments may be eligible for accelerated approval and may be approved on the basis of adequate and well-controlled clinical trials establishing that the drug product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. As a condition of approval, the FDA may require a sponsor of a drug receiving accelerated approval to perform post-marketing studies to verify and describe the predicted effect on irreversible morbidity or mortality or other clinical endpoint, and the drug may be subject to accelerated withdrawal procedures.

Moreover, under the provisions of the Food and Drug Administration Safety and Innovation Act, a sponsor can request designation of a product candidate as a “breakthrough therapy.” A breakthrough therapy is defined as a drug that is intended, alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. Drugs designated as breakthrough therapies are also eligible for accelerated approval. The FDA must take certain actions, such as holding timely meetings and providing advice, intended to expedite the development and review of an application for approval of a breakthrough therapy.

Even if a product qualifies for one or more of these programs, the FDA may later decide that the product no longer meets the conditions for qualification or decide that the time period for FDA review or approval will not be shortened. We may explore some of these opportunities for our product candidates as appropriate.

Post Approval Requirements

Drugs manufactured or distributed pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA and other government authorities, including, among other things, requirements relating to recordkeeping, periodic reporting, product sampling and distribution, advertising and promotion, and reporting of adverse experiences with the product. After approval, most changes to the approved product, such as adding new indications, manufacturing changes, or other labeling claims, are subject to prior FDA review and approval. There also are continuing annual program fee requirements for any marketed products.

The FDA may impose a number of post-approval requirements as a condition of approval of an NDA. For example, the FDA may require post-marketing testing, including Phase 4 clinical trials, and surveillance to further assess and monitor the product's safety and effectiveness after commercialization.

In addition, drug manufacturers and other entities involved in the manufacture and distribution of approved drugs are required to register their establishments with the FDA and state authorities, and are subject to periodic unannounced inspections by the FDA and these state authorities for compliance with cGMP requirements. Changes to the manufacturing process are strictly regulated and often require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP requirements and impose reporting and documentation requirements upon the sponsor and any third-party manufacturers that the sponsor may decide to use. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance.

Once an approval is granted, the FDA may withdraw the approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in mandatory revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical trials to assess new safety risks; or imposition of distribution or other restrictions under a REMS program.

Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market, or product recalls;
- fines, warning letters, or holds on post-approval clinical trials;
- refusal of the FDA to approve pending NDAs or supplements to approved NDAs, or suspension or revocation of product license approvals;
- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising, and promotion of products that are placed on the market. Drugs may be promoted only for the approved indications and in accordance with the provisions of the approved label, although physicians, in the practice of medicine, may prescribe approved drugs for unapproved indications. The FDA and other authorities actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

In addition, the distribution of prescription pharmaceutical products is subject to the Prescription Drug Marketing Act, or PDMA, which regulates the distribution of drugs and drug samples at the federal level, and sets minimum standards for the registration and regulation of drug distributors by the states. Both the PDMA and state laws limit the distribution of prescription pharmaceutical product samples and impose requirements to ensure accountability in distribution.

Other Healthcare and Data Privacy and Security Laws

Pharmaceutical and medical device manufacturers are subject to additional healthcare regulation and enforcement by the federal government and by authorities in the states and foreign jurisdictions in which they conduct their

business. Such laws include, without limitation, U.S. federal anti-kickback, fraud and abuse, false claims, consumer fraud, pricing reporting, data privacy and security, and transparency laws and regulations, as well as similar foreign laws in the jurisdictions outside the U.S. Similar state and local laws and regulations may also restrict business practices in the pharmaceutical industry, such as state anti-kickback and false claims laws, which may apply to business practices, including but not limited to, research, distribution, sales, and marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, or by patients themselves; 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, or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; state laws and regulations that require drug manufacturers to file reports relating to pricing and marketing information or which require tracking gifts and other remuneration and items of value provided to physicians, other healthcare providers, and entities; state and local laws that require the registration of pharmaceutical sales representatives; and state and local laws governing the privacy and security of health-related and other personal information in some circumstances, many of which differ from each other in significant ways and often are not preempted by the Health Insurance Portability and Accountability Act, or HIPAA, thus complicating compliance efforts. Violation of any of such laws or any other governmental regulations that apply may result in penalties, including, without limitation, civil and criminal penalties, damages, fines, additional reporting obligation, the curtailment or restructuring of operations, exclusion from participation in governmental healthcare programs, and individual imprisonment.

Coverage and Reimbursement

Sales of any pharmaceutical product depend, in part, on the extent to which such product will be covered by third-party payors, such as federal, state, and foreign government healthcare programs, commercial insurance, and managed healthcare organizations, and the level of reimbursement for such product by third-party payors. Significant uncertainty exists as to the coverage and reimbursement status of any newly approved product. Decisions regarding the extent of coverage and amount of reimbursement to be provided are made on a plan-by-plan basis. One third-party payor's decision to cover a particular product does not ensure that other payors will also provide coverage for the product. As a result, the coverage determination process can require manufactures to provide scientific and clinical support for the use of a product to each payor separately and can be a time-consuming process, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance. For products administered under the supervision of a physician, obtaining coverage and adequate reimbursement may be particularly difficult because of the higher prices often associated with such drugs. Additionally, separate reimbursement for the product itself or the treatment or procedure in which the product is used may not be available, which may impact physician utilization.

In addition, third-party payors are increasingly reducing reimbursements for pharmaceutical products and services. The U.S. government and state legislatures have continued implementing cost-containment programs, including price controls, restrictions on coverage and reimbursement, and requirements for substitution of generic products. Third-party payors are increasingly challenging the prices charged and examining the medical necessity and reviewing the cost effectiveness of pharmaceutical products, in addition to questioning their safety and efficacy. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit sales of any product. Decreases in third-party reimbursement for any product or a decision by a third-party payor not to cover a product could reduce physician usage and patient demand for the product.

In international markets, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies. For example, the European Union 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. Pharmaceutical products may face competition from lower-priced products in foreign countries that have placed price controls on pharmaceutical products and may also compete with imported foreign products. Furthermore, there is no assurance that a product will be considered medically reasonable and necessary for a specific indication, will be considered cost-effective by third-party payors, that an adequate level of reimbursement will be established even if coverage is available, or that the third-party payors' reimbursement policies will not adversely affect the ability for manufacturers to sell products profitably.

Healthcare Reform

In the United States and certain foreign jurisdictions, there have been, and we expect there will continue to be, a number of legislative and regulatory changes to the healthcare system. In March 2010, the Patient Protection and Affordable

Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively the ACA, was signed into law, which substantially changed the way healthcare is financed by both governmental and private insurers in the United States. By way of example, the ACA increased the minimum level of Medicaid rebates payable by manufacturers of brand name drugs from 15.1% to 23.1%; required collection of rebates for drugs paid by Medicaid managed care organizations; imposed a non-deductible annual fee on pharmaceutical manufacturers or importers who sell certain “branded prescription drugs” to specified federal government programs; implemented a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted, or injected; expanded eligibility criteria for Medicaid programs; 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 Innovation at CMS to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA, and we expect there will be additional challenges and amendments to the ACA in the future. For example, in 2017, Congress enacted the Tax Cuts and Jobs Act, which eliminated 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.” On December 14, 2018, a U.S. District Court Judge in the Northern District of Texas, or the Texas District Court Judge, ruled that the individual mandate is a critical and inseparable feature of the ACA, and therefore, because it was repealed as part of the Tax Cuts and Jobs Act, the remaining provisions of the ACA are invalid as well. On March 2, 2020, the U.S. Supreme Court granted the petitions for writs of certiorari to review this case, although it is unclear when or how the Supreme Court will rule. It is also unclear how other efforts to challenge, repeal, or replace the ACA will impact the ACA.

Other legislative changes have been proposed and adopted since the ACA was enacted, including aggregate reductions of Medicare payments to providers of 2% per fiscal year and reduced payments to several types of Medicare providers, which will remain in effect through 2030, with the exception of a temporary suspension from May 1, 2020, through December 31, 2021, absent additional congressional action. Moreover, there has recently been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed and enacted legislation designed, among other things, to bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for pharmaceutical products. Individual states in the United States have also become increasingly active in implementing regulations designed to control pharmaceutical 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, mechanisms to encourage importation from other countries and bulk purchasing. Furthermore, there has been increased interest by third party payors and governmental authorities in reference pricing systems and publication of discounts and list prices.

Employees

As of December 31, 2022, we had 58 full-time employees. None of our employees is represented by a labor union or covered by a collective bargaining agreement. Employee turnover has not had a material impact on our operations. We consider our relationship with our employees to be good.

Corporate Information

We were incorporated under the laws of the state of Delaware in November 2005 under the name WMR Biomedical, Inc. In July 2018, we changed our name to Lyra Therapeutics, Inc. Our principal executive offices are located at 480 Arsenal Way, Watertown, MA 02472 and our telephone number is (617) 393-4600. Our website address is www.lyratx.com. The information contained in, or accessible through, our website does not constitute a part of this Annual Report on Form 10-K. We have included our website address in this Annual Report on Form 10-K solely as an inactive textual reference.

Available Information

Our Internet address is www.lyratx.com. Our Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, including exhibits, proxy and information statements and amendments to those reports filed or furnished pursuant to Sections 13(a), 14, and 15(d) of the Securities Exchange Act of 1934, as amended, are filed with the U.S. Securities and Exchange Commission, or the SEC, and are available through the “Investors” portion of our website free of charge as soon as

reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Information on our website is not part of this Annual Report on Form 10-K or any of our other securities filings unless specifically incorporated herein by reference. Our filings with the SEC may be accessed through the SEC's website at <http://www.sec.gov>, which contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. All statements made in any of our securities filings, including all forward-looking statements or information, are made as of the date of the document in which the statement is included, and we do not assume or undertake any obligation to update any of those statements or documents unless we are required to do so by law.

Item 1A. Risk Factors.

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below and the other information contained in this Annual Report on Form 10-K before making an investment in our common stock. Our business, financial condition, results of operations, or prospects could be materially and adversely affected if any of these risks occurs, and as a result, the market price of our common stock could decline and you could lose all or part of your investment. This Annual Report on Form 10-K also contains forward-looking statements that involve risks and uncertainties. See "Special Note Regarding Forward-Looking Statements." Our actual results could differ materially and adversely from those anticipated in these forward-looking statements as a result of certain factors, including those set forth below.

Risks Related to Our Financial Position and Need for Additional Capital

We have a limited operating history and a history of escalating operating losses, which may make it difficult to evaluate the prospects for our future viability.

We are a clinical-stage biotechnology company established in November 2005. Our operations to date have been limited to financing and staffing our Company, developing our technology, and identifying and developing our product candidates. Our prospects must be considered in light of the uncertainties, risks, expenses, and difficulties frequently encountered by companies in their early stages of operations. We have not yet demonstrated an ability to obtain marketing approval, manufacture a commercial scale product, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Consequently, predictions about our future success or viability may not be as accurate as they could be if we had a longer operating history or a history of successfully developing, obtaining marketing approval for, and commercializing CRS treatments.

In addition, we may encounter unforeseen expenses, difficulties, complications, delays, and other known and unknown obstacles. We will eventually need to transition from a company with a research and development focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

As we continue to build our business, we expect our financial condition and operating results may fluctuate significantly from quarter to quarter and year to year due to a variety of factors, many of which are beyond our control. Accordingly, you should not rely upon the results of any particular quarterly or annual period as indications of future operating performance.

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

We have incurred significant operating losses in each year since our inception, including operating losses of approximately \$55.3 million and \$43.5 million for the fiscal years ended December 31, 2022 and December 31, 2021, respectively. In addition, we have not commercialized any products and have never generated any revenue from product sales. We have devoted almost all of our financial resources to research and development, including our pre-clinical development activities.

In addition, we expect to continue to incur significant additional operating losses for the foreseeable future as we seek to advance product candidates through pre-clinical and clinical development, expand our research and development activities, develop new product candidates, complete pre-clinical studies and clinical trials, seek regulatory approval, and, if we receive FDA approval, commercialize our products. In order to obtain FDA approval of any product candidate, we must submit to the FDA an NDA demonstrating that the product candidate is safe for humans and effective for its intended use. This demonstration requires significant research and animal tests, which are referred to as non-clinical or pre-clinical studies, as well as human tests, which are referred to as clinical trials. Furthermore, the costs of advancing product candidates into each succeeding clinical phase tend to increase substantially over time. The total costs to advance any of our product candidates to marketing approval in even a single jurisdiction would be substantial. Because of the numerous risks and uncertainties associated with ENT disease treatment product development, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to begin generating revenue from the commercialization of products or achieve or maintain profitability. Our expenses will also increase substantially if and as we:

- continue the two pivotal Phase 3 ENLIGHTEN clinical trials of our most advanced product candidate, LYR-210;
- complete the Phase 2 BEACON clinical trial of LYR-220;
- continue to discover and develop additional product candidates;
- establish manufacturing and supply chain capacity sufficient to provide clinical and commercial quantities of any product candidates for which we may obtain marketing approval;
- seek regulatory and marketing approvals for product candidates that successfully complete clinical trials, if any;
- establish a sales, marketing and distribution infrastructure to commercialize any products for which we may obtain regulatory approval in geographies in which we plan to commercialize our products ourselves;
- maintain, expand, and protect our intellectual property portfolio;
- hire additional staff, including clinical, scientific, technical, manufacturing, regulatory, operational, financial, commercial, and support personnel, to execute our business plan;
- add clinical, scientific operational, financial, and management information systems and personnel to support our product development and potential future commercialization efforts, and as to enable us to operate as a public reporting company;
- utilize external vendors for support with respect to research, development, commercialization, regulatory, pharmacovigilance, and other functions;
- acquire or in-license other commercial products, product candidates, and technologies;
- expand internationally;
- make royalty, milestone, or other payments under any future in-license agreements;
- implement additional internal systems and infrastructure; and
- operate as a public company.

Furthermore, our ability to successfully develop, commercialize, and license our products and generate product revenue is subject to substantial additional risks and uncertainties. Each of our product candidates will require additional pre-clinical and/or clinical development, potential regulatory approval in multiple jurisdictions, the securing of manufacturing supply, capacity, and expertise, the use of external vendors, the building of a manufacturing and commercial organization, substantial investment, and significant marketing efforts before we generate any revenue from product sales. As a result, we expect to continue to incur net losses and negative cash flows for the foreseeable future. These net losses and negative cash flows have had, and will continue to have, an adverse effect on our stockholders' equity and working capital.

The amount of future losses and when, if ever, we will achieve profitability are uncertain. We have no products that have generated any commercial revenue, do not expect to generate revenues from the commercial sale of products in the foreseeable future, and might never generate revenues from the sale of products. Our ability to generate revenue and achieve profitability will depend on, among other things, successful completion of the clinical development of our product candidates; obtaining necessary regulatory approvals from the FDA and international regulatory agencies; establishing manufacturing, sales, and market acceptance of our products and marketing infrastructure to commercialize our product candidates for which we obtain approval; and raising sufficient funds to finance our activities. We might not succeed at any of these undertakings. If we are unsuccessful at some or all of these undertakings, our business, prospects, and results of operations may be materially adversely affected.

We will need significant additional funding in order to complete development of, manufacture, and obtain regulatory approval for our product candidates and commercialize our products, if approved. If we are unable to raise capital when needed, we could be forced to delay, reduce, or eliminate our product development programs or commercialization efforts.

We will continue to need additional capital, which we may raise through equity offerings, debt financings, marketing, and distribution arrangements and other collaborations, strategic alliances, and licensing arrangements or other sources. Additional sources of financing might not be available on favorable terms, if at all. If we do not succeed in raising additional funds on acceptable terms, we might be unable to complete planned clinical trials or obtain approval of any of our product candidates from the FDA, or any foreign regulatory authorities, and could be forced to discontinue product development. In addition, attempting to secure additional financing may divert the time and attention of our management from day-to-day activities and harm our product candidate development efforts.

We will require substantial funds to further develop, manufacture, obtain approval for, and commercialize our product candidates, including LYR-210, for which we have initiated two pivotal Phase 3 clinical trials. We will also require substantial funds to further develop, obtain approval for, and commercialize our other product candidate, LYR-220, which is currently being studied in a Phase 2 clinical trial.

Based on our current operating plan, we believe that our current cash and cash equivalents will be sufficient to enable us to fund our operating expenses and capital expenditure requirements into mid-2024. This estimate is based on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. Changing circumstances could cause us to consume capital significantly faster than we currently anticipate, and we may need to spend more than currently expected because of circumstances beyond our control. Because the length of time and activities associated with successful development of LYR-210 and LYR-220 is highly uncertain, we are unable to estimate the actual funds we will require for development, approval, and any approved marketing and commercialization activities. Our future funding requirements, both near and long-term, will depend on many factors, including, but not limited to:

- the scope and results of our pre-clinical studies and clinical trials, including any unforeseen costs we may incur as a result of pre-clinical study or clinical trial delays due to COVID-19 or other causes;
- the timing of, and the costs involved in, obtaining regulatory approvals for LYR-210 and LYR-220;
- the costs and timing of changes in the regulatory environment and enforcement rules;
- the costs and timing in changes in pharmaceutical pricing and reimbursement infrastructure;
- the costs involved in preparing, filing, prosecuting, maintaining, and enforcing patent claims and other patent-related costs, including any litigation costs and the results of such litigation;
- the effect of competing technological and market developments;
- the extent to which we in-license or acquire other products and technologies;
- the cost of establishing sales, marketing, manufacturing, and distribution capabilities for our product candidates in regions where we choose to commercialize our products; and
- the initiation, progress, timing, and results of our commercialization of LYR-210 and LYR-220, if approved for commercial sale.

Depending on our business performance, the economic climate, and market conditions, we may be unable to raise additional funds through any sources. Market volatility resulting from COVID-19 or other causes could also adversely impact our ability to access capital as and when needed. If we are unable to obtain adequate funding on a timely basis, we may be required to curtail or discontinue one or more of our development programs for LYR-210 or LYR-220, or to reduce our operations. If we raise additional funds by issuing equity securities, our then-existing stockholders will experience dilution and the terms of any new equity securities may have preference over those of our existing common stock.

Raising additional capital may cause dilution to our stockholders, restrict our operations, or require us to relinquish rights to our technologies or product candidates.

Until such time, if ever, as we can generate substantial revenue, we may finance our cash needs through a combination of equity offerings, debt financings, marketing, and distribution arrangements and other collaborations, strategic alliances, and licensing arrangements. In addition, we may seek additional capital due to favorable market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans.

To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interests of our shareholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common stockholders. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our operations and our ability to take specific actions, such as incurring additional debt, making capital expenditures, declaring dividends, redeeming our stock, making certain investments, and engaging in certain merger, consolidation, or asset sale transactions, among other restrictions. If we raise additional funds through additional collaborations, strategic alliances, or marketing, distribution, or licensing arrangements with third parties, we may be required to relinquish valuable rights to our technologies, future revenue streams, or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce, or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

We identified a material weakness in our internal control over financial reporting that resulted in a restatement of our unaudited interim condensed consolidated financial statements as of and for the three months ended March 31, 2022 and as of and for the three and six months ended June 30, 2022. This material weakness, if not remediated, could adversely affect our business, our stock price and our ability to report our results of operations and financial condition accurately and in a timely manner.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our financial statements for external purposes in accordance with GAAP. Our management is likewise required, on a quarterly basis, to evaluate the effectiveness of our internal controls and to disclose any changes and material weaknesses identified through such evaluation in those internal controls.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. A significant deficiency is a deficiency, or combination of deficiencies, in internal controls that is less severe than a material weakness, yet important enough to merit attention by those charged with governance. When evaluating our internal control over financial reporting, we may identify material weaknesses that we may not be able to remediate in time to meet the applicable deadline imposed upon us for compliance with the requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended (the “Sarbanes-Oxley Act”).

As described in Part I, Item 4 “Controls and Procedures”, we identified a material weakness in our internal control over financial reporting related to the accounting and reporting for the LianBio License Agreement entered into with LianBio, which resulted in a restatement of our financial statements for the three months ended March 31, 2022 and the three and six months ended June 30, 2022. Accordingly, our management concluded that our internal control over financial reporting was not effective as of December 31, 2022.

To respond to this material weakness, we have devoted, and plan to continue to devote, significant effort and resources to the remediation and improvement of our internal control over financial reporting. The elements of our remediation plan can only be accomplished over time, and we can provide no assurance that these initiatives will ultimately have the intended effects. For a discussion of management’s consideration of the material weakness identified with respect to our accounting and reporting for the LianBio transaction, see Part II, Item 9A, “Controls and Procedures.”

Any failure to remediate our existing or any future material weaknesses or otherwise maintain effective internal control over financial reporting could adversely impact our ability to report our financial position and results of operations on a timely and accurate basis. If our financial statements are not accurate, investors may not have a complete understanding of our operations and may lose confidence in our financial reporting and our business, reputation, results of operations, liquidity, financial condition, stock price and our ability to access the capital markets could be adversely affected. In addition,

we may be unable to maintain or regain compliance with applicable securities laws, stock market listing requirements and covenants regarding the timely filing of periodic reports. We may be subject to regulatory investigations and penalties by the SEC, Nasdaq or other regulatory authorities, and we may face claims invoking the federal and state securities laws. Any such litigation or dispute, whether successful or not, could have a material adverse effect on our business, results of operations and financial condition.

We can provide no assurance that the measures we have taken and plan to take in the future will remediate the material weakness identified or that any additional material weaknesses or restatements of financial results will not arise in the future due to a failure to implement and maintain adequate internal control over financial reporting or circumvention of these controls. In addition, even if we are successful in strengthening our internal controls and procedures, in the future these internal controls and procedures may not be adequate to prevent or identify irregularities or errors or to facilitate the fair presentation of our financial statements.

We have no approved products.

To date, we have no approved product on the market and have generated no product revenues. Unless we receive approval from the FDA or other regulatory authorities for our product candidates, we will not have product revenues. Therefore, for the foreseeable future, we will have to fund all of our operations and capital expenditures from cash on hand and licensing fees and grants, if any.

Our product candidates are in various stages of development.

We are a biotechnology company focused on the development and commercialization of novel integrated drug and drug delivery solutions for the localized treatment of patients with ENT diseases. Our product candidates are in clinical development, and favorable results in early-stage clinical trials may not be predictive of success in later clinical trials and may not lead to commercially viable products for any of several reasons. For example, our product candidates may fail to be safe and effective in current or future clinical trials or pre-clinical studies, or we may have inadequate financial or other resources to pursue discovery and development efforts for new product candidates. Our product candidates will require significant additional development, clinical trials, regulatory authorizations, and additional investment by us before they can be commercialized.

Our business is highly dependent on the success of our most advanced product candidate, LYR-210, which will require significant additional clinical testing before we can seek regulatory approval and potentially launch our product. If LYR-210 does not receive regulatory approval or is not successfully commercialized, or is significantly delayed in doing so, our business will be harmed.

A substantial portion of our business and future success depends on our ability to develop, obtain regulatory approval for, and successfully commercialize our most advanced product candidate, LYR-210. We currently have no products that are approved for commercial sale and have not completed the development of any product candidates, and may never be able to develop marketable products. We expect that a substantial portion of our efforts and expenditures over the next few years will be devoted to LYR-210, which will require additional clinical development and potential additional pre-clinical development, management of clinical and medical affairs and manufacturing activities, regulatory approval in multiple jurisdictions, the securing of manufacturing supply, the building of a commercial organization, substantial investment, and significant marketing efforts before we can generate any revenues from any commercial sales. We cannot be certain that LYR-210 will be successful in ongoing or future clinical trials, receive regulatory approval, or be successfully commercialized even if we receive regulatory approval. Even if we receive approval to market LYR-210 from the FDA or other regulatory bodies, we cannot be certain that our product candidates will be successfully commercialized, widely accepted in the marketplace, or more effective than other commercially available alternatives. Nor can we be certain that, if and when approved, the safety and efficacy profile of LYR-210 or our other product candidates will be consistent with the profiles observed in clinical trials.

We advanced LYR-210 through our Phase 2 randomized, controlled, patient blinded LANTERN clinical trial, evaluating the safety and efficacy in surgically naïve CRS patients who have failed previous medical management. The trial was designed to enroll 99 evaluable patients with the potential to increase to up to 150 patients and was initiated in May 2019 at sites in Australia, Austria, Czech Republic, New Zealand, and Poland. In December 2019, the FDA authorized our investigational new drug application, and, prior to the COVID-19 pandemic, we planned to enroll patients in the United States. However, in light of developments relating to the COVID-19 pandemic, as described below, we discontinued enrollment at 67 patients in our Phase 2 LANTERN clinical trial and did not enroll any patients in the United States.

On December 7, 2020, we reported top-line results from our Phase 2 LANTERN clinical trial, including that LYR-210 failed to meet the primary endpoint of the trial. We believe this was primarily due to the discontinuation of enrollment related to the COVID-19 pandemic. As a result of the decrease in the number of patients enrolled from planned (99 evaluable) to actually enrolled (67) patients in our Phase 2 LANTERN clinical trial, a greater magnitude of change in composite score of the seven-day average of four cardinal symptoms from baseline at week 4 and/or a smaller standard deviation associated with the change from baseline at week 4 was required in order for the trial to achieve statistical significance for the primary endpoint. There can be no assurance that we will achieve the primary endpoint or any other endpoints in the ENLIGHTEN Phase 3 clinical trials we conduct for LYR-210.

Moreover, while we leveraged remote electronic data collection to enable us to complete the clinical assessments and generate sufficient information in our Phase 2 LANTERN clinical trial to commence designing our Phase 3 clinical trial, there can be no assurance that COVID-19 or other delays or disruptions will not hinder our electronic data collection or our ability to collect data or measurements requiring sinus imaging to assess reduction in inflammation and phlebotomy to assess pharmacokinetics/pharmacodynamics. For example, we were unable to enroll patients in our Phase 2 LANTERN clinical trial in the United States from whom we intended to collect certain additional pharmacokinetic data due to COVID-19, and as a result, we initiated a separate characterization study in September 2020, as a follow-on to our Phase 2 LANTERN clinical trial, in order to collect such data. The characterization study was a 56-day open label, multi-center, U.S. study of the PK and safety of LYR-210 in adult subjects with chronic rhinosinusitis. The primary objective of the study was to establish the PK profile of LYR-210. The study enrolled 24 patients, half of whom received LYR-210 2,500 µg and the other half received LYR-210 7,500 µg. The study indicated that both doses were safe and well tolerated, with the mean maximum plasma concentration, or C_{max}, observed with the 7,500 µg dose well below the C_{max} established for FDA-approved formulations of mometasone furoate, or MF. MF blood plasma levels observed during the PK study support LYR-210's ability to deliver consistent and steady dosing over the entire treatment period. There can be no assurance that any future trial we may conduct will not be affected or further affected by COVID-19 or other delays and disruptions.

If the required regulatory approvals for LYR-210 are not obtained or are significantly delayed, including as a result of COVID-19, or any approved products are not commercially successful, our business, financial condition, and results of operations may be materially harmed.

LYR-210 is our most advanced product candidate, and if we experience regulatory or developmental issues with respect to LYR-210, our development plans and business could be significantly harmed. Moreover, if we experience similar regulatory or developmental issues with our other pipeline product candidates, our development plans and business could be significantly harmed. Further, our competitors may be developing products with similar mechanisms of action and may experience problems with their products that could identify problems that would potentially harm our business.

Managing our obligations under our license and other strategic agreements may divert management time and attention, causing delays or disruptions to our business.

On May 31, 2021, and as amended on September 26, 2022, we have entered into the LianBio License Agreement. The LianBio License Agreement grants an exclusive license to develop and commercialize the Company's product candidate LYR-210, an anti-inflammatory, intra-nasal drug matrix designed to treat chronic rhinosinusitis Disease in Greater China (mainland China, Hong Kong, Macau, and Taiwan), Singapore, South Korea, and Thailand, or the Territory. Furthermore, under the LianBio License Agreement, LianBio has the first right to obtain a license to develop and commercialize Lyra's product candidate LYR-220, an anti-inflammatory, intra-nasal, drug matrix in development for the treatment of chronic rhinosinusitis patients who have undergone a prior sinus surgery but continue to have persistent disease in the Territory. We also may in the future enter into license and strategic agreements, which, subject us to various obligations, including diligence obligations, reporting and notification obligations, payment obligations for achievement of certain milestone as well as other material obligations. We may need to devote substantial time and attention to ensuring that we successfully integrate these transactions into our existing operations and are compliant with our obligations under these agreements, which may divert management's time and attention away from our research and development programs or other day-to-day activities.

Our license and strategic agreements are also complex and certain provisions in those agreements may be susceptible to multiple interpretations. In the event of any disagreement about the interpretation of these provisions, our management may need to devote a disproportionate amount of its attention to resolving these disagreements. Such disruptions may cause delays in our research and development programs and other business objectives.

Our operating activities may be restricted by certain covenants in our license and strategic agreements, which could limit our development and commercial opportunities.

In connection with our license and strategic agreements, we may agree to and be bound by negative covenants which may limit our development and commercial opportunities. For example, pursuant to the LianBio License Agreement, we made certain covenants to not commercialize a competing product anywhere in the Territory, nor collaborate with, enable, or otherwise authorize, license, or grant any right to any third party to commercialize a competing product anywhere in the Territory, subject to certain carve-outs. We also made certain covenants to grant an exclusive option to LianBio for the development and commercialization of our product candidate, LYR-220, in the Territory. These provisions may inhibit our development efforts, prevent us from forming strategic collaborations to develop and potentially commercialize any other product candidates and may materially harm our business, financial condition, results of operations and prospects.

Failure to obtain marketing approval in international jurisdictions would prevent our products from being marketed in such jurisdictions.

In order to market and sell our products in jurisdictions outside of the United States, we or our third-party collaborators must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ substantially from that required to obtain FDA approval. The regulatory approval process outside the United States generally includes all the risks associated with obtaining FDA approval. In addition, in many countries outside the United States, it is required that the product be approved for reimbursement before the product can be approved for sale in that country. Additionally, we may be dependent on third-party collaborators to develop and commercialize our product candidates in certain international jurisdictions, such as in the case of our exclusive license agreement with LianBio for the development and commercialization of LYR-210 in the Territory. In the agreement with LianBio, while we have agreed that we must use commercially reasonable efforts to complete a global Phase III clinical trial for LR-210 and seek regulatory approval for the same in the United States, LianBio must also use commercially reasonable efforts to develop, seek regulatory approval for, and commercialize LYR-210 in the Territory. We or these third parties may not obtain approvals from regulatory authorities outside the United States on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one regulatory authority outside the United States does not ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA. However, the failure to obtain approval in one jurisdiction may negatively impact our ability to obtain approval in other jurisdictions. We and our third-party collaborators may not be able to file for marketing approvals, and even if we do, we may not obtain necessary approvals to commercialize our medicines in any market.

We have entered into a collaboration, and may enter into collaborations, that place the development and commercialization of our product candidates outside our control, require us to relinquish important rights or may otherwise be on terms unfavorable to us, and if our collaborations are not successful, our product candidates may not reach their full market potential.

Our drug development programs and the potential commercialization of our drug candidates will require substantial additional cash to fund expenses. For some of our drug candidates, we may decide to collaborate with additional pharmaceutical and biotechnology companies for the development and potential commercialization of those drug candidates in selected geographic territories or for selected patient populations. For example, in May 2021, we entered into the LianBio License Agreement to develop and commercialize LYR-210 in the Territory. We face significant competition in seeking appropriate collaborators. Whether we reach a definitive agreement for a collaboration or successfully maintain a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed or existing collaboration and the proposed or existing collaborator's evaluation of a number of factors. Those factors may include the design or results of clinical trials, the likelihood of approval by the FDA or similar regulatory authorities outside the United States, the potential market for the subject drug candidate, the costs and complexities of manufacturing and delivering such drug candidate to patients, the potential of competing drugs, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge and industry and market conditions generally. The collaborator may also consider alternative drug candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us for our drug candidate. The terms of any existing or additional collaborations or other arrangements that we may establish may not be favorable to us.

We may not be successful in our efforts to identify and successfully commercialize additional product candidates.

Part of our strategy involves identifying novel product candidates. The process by which we identify product candidates may fail to yield product candidates for clinical development for a number of reasons, including those discussed in these risk factors and also:

- we may not be able to assemble sufficient resources to acquire or discover additional product candidates;
- competitors may develop alternatives that render our potential product candidates obsolete or less attractive;
- potential product candidates we develop may nevertheless be covered by third parties' patents or other exclusive rights;
- potential product candidates may, on further study, be shown to have harmful side effects, toxicities, or other characteristics that indicate that they are unlikely to be products that will receive marketing approval or achieve market acceptance;
- potential product candidates may not be effective in treating their targeted diseases or symptoms;
- the market for a potential product candidate may change so that the continued development of that product candidate is no longer reasonable;
- a potential product candidate may not be capable of being produced in commercial quantities at an acceptable cost, or at all; or
- the regulatory pathway for a potential product candidate is highly complex and difficult to navigate successfully or economically.

In addition, we may choose to focus our efforts and resources on a potential product candidate that ultimately proves to be unsuccessful, or to license or purchase a marketed product that does not meet our financial expectations. As a result, we may fail to capitalize on viable commercial products or profitable market opportunities, be required to forego or delay pursuit of opportunities with other product candidates or other diseases that may later prove to have greater commercial potential, or relinquish valuable rights to such product candidates through collaboration, licensing, or other royalty arrangements in cases in which it would have been advantageous for us to retain sole development and commercialization rights. If we are unable to identify and successfully commercialize additional suitable product candidates, this would adversely impact our business strategy and our financial position.

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

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

Risks Related to Discovery, Development, Clinical Testing, Manufacturing, and Regulatory Approval

Clinical trials required for our product candidates are expensive and time-consuming, their outcome is uncertain, and if our clinical trials do not meet safety or efficacy endpoints in these evaluations, or if we experience significant delays in these trials, our ability to commercialize our product candidates and our financial position will be impaired.

We initiated the pivotal Phase 3 clinical trials for our most advanced product candidate, LYR-210. Additionally, our other product candidate, LYR-220, commenced its Phase 2 BEACON clinical trial in November 2021. It is impossible to predict when or if either of our product candidates will prove effective and safe in humans or if we will receive regulatory approval for any of our product candidates, and the risk of failure through the development process is high. Before obtaining marketing approval from regulatory authorities for the sale of any product candidate, we must complete pre-clinical development and then conduct extensive clinical trials to demonstrate the safety and efficacy of our product candidates in humans.

Clinical development is a long, expensive, and uncertain process that is subject to significant delays. Due to known or unknown circumstances beyond our control, it may take us several years to complete our testing, and failure can occur at any stage of testing. The outcome of pre-clinical testing and early clinical trials may not be predictive of the results of later clinical trials, and interim results of a clinical trial do not necessarily predict final results. We cannot assure you that any clinical trial that we are conducting, or may conduct in the future, will demonstrate consistent or adequate efficacy and safety to obtain regulatory approval to market our product candidates. Moreover, pre-clinical and clinical data are often susceptible to varying interpretations and analysis, and many companies that have believed their product candidates performed satisfactorily in pre-clinical studies and clinical trials have nonetheless failed to obtain marketing approval of their products.

Delays associated with products for which we are directly conducting pre-clinical studies or clinical trials may cause us to incur additional operating expenses. The commencement and rate of completion of pre-clinical studies or clinical trials may be delayed by, or terminated because of, many factors, including:

- the FDA or comparable foreign regulatory authorities disagreeing as to the design or implementation of our pre-clinical studies or clinical trials;
- failure to obtain regulatory approval to commence a trial;
- failure to reach, or delays in reaching, an agreement on acceptable terms with prospective contract research organizations, or CROs, and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- slower than expected rates of recruitment of patients or failure to recruit a sufficient number of patients;
- modification of pre-clinical studies or clinical trial protocols;
- changes in regulatory requirements for pre-clinical studies or clinical trials;
- the impact of unusual placebo effects;
- the lack of effectiveness during pre-clinical studies or clinical trials;
- the emergence of unforeseen safety issues or undesirable side effects;
- failure to obtain institutional review board, or the IRB, approval at each site;
- delays, suspension, or termination of clinical trials by the IRB responsible for overseeing the trial at a particular trial site;
- failure of patients in completing a trial or returning for post-treatment follow-up;

- clinical sites deviating from trial protocol, dropping out of a trial, or failing to comply with regulatory requirements;
- failure to address patient safety concerns that arise during the course of a trial;
- failure to manufacture sufficient quantities of product candidate for use in clinical trials;
- government, IRB, or other regulatory delays or “clinical holds” requiring suspension or termination of the trials; and
- business interruptions resulting from COVID-19.
- We may experience numerous unforeseen events during, or as a result of, clinical trials that could delay or prevent our ability to receive marketing approval or commercialize our product candidates or significantly increase the cost of such trials, including:
- we may receive feedback from regulatory authorities that requires us to modify the design of our clinical trials;
- clinical trials of our product candidates may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon development programs;
- the number of patients required for clinical trials of our product candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate, or participants may drop out of these clinical trials or fail to return for post-treatment follow-up at a higher rate than we anticipate;
- we may be unable to enroll a sufficient number of patients in our clinical trials to ensure adequate statistical power to detect any statistically significant treatment effects;
- our third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;
- regulators, IRBs, or independent ethics committees, or IECs, may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site or may require that we or our investigators suspend or terminate clinical trials of our product candidates for various reasons, including non-compliance with regulatory requirements, a finding that our product candidates have undesirable side effects or other unexpected characteristics, or a finding that the participants are being exposed to unacceptable health risks;
- we may experience delays in reaching or fail to reach agreement on acceptable pre-clinical study or clinical trial contracts or pre-clinical study or clinical trial protocols with prospective trial sites;
- the cost of pre-clinical studies or clinical trials of our product candidates may be greater than we anticipate and we may not have funds to cover the costs;
- the supply or quality of our product candidates or other materials necessary to conduct pre-clinical studies or clinical trials of our product candidates, or commercialize our products, may be insufficient or inadequate;
- regulators may revise the requirements for approving our product candidates, or such requirements may not be as we anticipate; and
- any current or future collaborators that conduct pre-clinical studies or clinical trials may face any of the above issues, and may conduct pre-clinical studies or clinical trials in ways they view as advantageous to them but that are suboptimal for us.

If we are required to extend the duration of current pre-clinical studies or clinical trials or to conduct additional pre-clinical studies or clinical trials or other testing of our product candidates beyond those that we currently contemplate, if we are unable to successfully complete pre-clinical studies or clinical trials of our product candidates or other testing, if the results of these trials, studies, or tests are not positive or are only modestly positive, if there are safety concerns, or if we determine that the observed safety or efficacy profile would not be competitive in the marketplace, we may:

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

We could encounter delays if a clinical trial is materially modified, suspended, or terminated by us, by the IRBs of the institutions in which such trials are being conducted, by the Data Safety Monitoring Board, or DSMB, for such trial, or by the FDA or other regulatory authorities. Such authorities may impose a material modification, suspension, or termination due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects for our product candidates, or other products or product candidates in the same drug class, failure to demonstrate a benefit from using a drug, changes in governmental regulations or administrative actions, or lack of adequate funding to continue the clinical trial. Furthermore, we may rely on CROs and clinical trial sites to ensure the proper and timely conduct of clinical trials and while we would have agreements governing their committed activities, we would have limited influence over their actual performance, as described in “—Risks Related to Our Dependence on Third Parties.”

Our most advanced product candidate, LYR-210, is in clinical development and will require the completion of clinical testing before we are prepared to submit an NDA for regulatory approval. We cannot predict if or when we might complete the development of LYR-210 and submit an NDA or whether any such NDA will be approved by the FDA. We may also seek feedback from the FDA or other regulatory authorities on our clinical development programs, and the FDA or such regulatory authorities may not provide such feedback on a timely basis, or such feedback may not be favorable, which could further delay our development programs. If the results of ongoing and future clinical trials for LYR-210 are positive, we plan to submit an NDA in the United States. However, no assurance can be given that we will be successful in the near term, obtain regulatory approval, or have any commercial sales of LYR-210.

Any clinical test may fail to produce results satisfactory to the FDA or foreign regulatory authorities. For example, our Phase 2 LANTERN clinical study for LYR-210 did not meet its primary endpoint and the FDA may not find such result to be sufficient to advance to a Phase 3 pivotal study. Pre-clinical and clinical data can be interpreted in different ways by different reviewers and regulators, which could delay, limit, or prevent regulatory approval. Drug-related adverse events during a pre-clinical study or clinical trial could cause us to repeat a trial or study, perform an additional trial or study, expand the size and/or duration of a trial or study, terminate a trial or study, or even cancel a pre-clinical or clinical program. The failure of pre-clinical studies or clinical trials to demonstrate safety and effectiveness for the desired indications could harm the development of that product candidate and other product candidates. This failure could cause us to abandon a product candidate and could delay development of other product candidates. Any delay in, or termination of, our clinical trials would delay the filing of our NDAs with the FDA and, ultimately, our ability to commercialize our product candidates and generate product revenues. A number of companies in the biotechnology and pharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier trials. Even if our future and ongoing pre-clinical studies and clinical trials are completed as planned, we cannot be certain that their results will support the safety and effectiveness of LYR-210, LYR-220, and/or any future product candidate.

If we experience delays in the commencement or completion of, or have to extend or expand, our pre-clinical studies or clinical trials, or if we terminate a pre-clinical study or clinical trial prior to completion, the commercial prospects of LYR-210, LYR-220, or any future product candidate could be harmed, and our ability to generate revenues from LYR-210, LYR-220, or any future product candidate may be delayed. In addition, any delays in our pre-clinical studies or clinical trials could increase our costs, slow down the development and approval process, and jeopardize our ability to commence product sales and generate revenues. Any of these occurrences may harm our business, financial condition, and results of operations. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of pre-clinical studies or clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates.

Our pre-clinical studies and clinical trials may fail to demonstrate adequately the safety and efficacy of any of our product candidates and the development of our product candidates may be delayed or unsuccessful, which could prevent or delay regulatory approval and commercialization.

Both of our current product candidates are in clinical development. Notwithstanding the data obtained to date with respect to LYR-210 and LYR-220 in CRS, LYR-210 and LYR-220 will require additional clinical and non-clinical development, regulatory review and approval in multiple jurisdictions, substantial investment, access to sufficient commercial manufacturing capacity, and significant marketing efforts before we can generate any revenue from our product sales. In addition, if we encounter safety or efficacy problems, developmental delays or regulatory issues, delays caused by COVID-19, or other problems, our developmental plans and business could be significantly harmed. For example, our Phase 2 LANTERN clinical trial for LYR-210 failed to meet its primary endpoint which may delay our overall commercialization efforts.

If the development of LYR-210, LYR-220, or any other future product candidate is unsuccessful, our ability to generate revenues will be adversely affected. Our development of current and future product candidates is subject to the risks of failure and delay inherent in the development of new products and product candidates, including:

- delays in product development, pre-clinical, or clinical testing or manufacturing;
- unplanned expenditures in product development, pre-clinical, or clinical testing or manufacturing;
- failure to receive regulatory approvals;
- failure to secure rights from third parties for new technology;
- failure to achieve market acceptance; and
- emergence of superior or equivalent products.

In addition, product candidates in later stages of clinical trials may fail to show the desired safety profiles and efficacy results despite having progressed through pre-clinical studies and initial clinical trials. A number of companies in the biotechnology industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier trials. Based upon negative or inconclusive results, we may decide, or regulators may require us, to conduct additional clinical trials or pre-clinical studies. In addition, data obtained from trials and studies are susceptible to varying interpretations, and regulators may not interpret our data as favorably as we do, which may delay, limit, or prevent regulatory approval.

Additionally, we have not conducted, nor do we believe we are required to conduct, any head-to-head trials comparing LYR-210 to other approved or experimental treatments for CRS. Any such head-to-head trial, if conducted, may show that LYR-210 is not more effective than any of such other drugs. Material adverse differences in the relative efficacy of LYR-210 could significantly harm the adoption of LYR-210 and our business prospects.

Because of these risks, our research and development efforts may not result in any commercially viable products. If a significant portion of these development efforts are not successfully completed, required regulatory approvals are not obtained, or any approved products are not commercially successful, our business, financial condition, and results of operations may be materially harmed.

Success in pre-clinical or earlier clinical trials may not be indicative of results in future clinical trials.

Success in pre-clinical studies and early clinical trials does not ensure that later clinical trials will generate the same results or otherwise provide adequate data to demonstrate the efficacy and safety of a product candidate. Pre-clinical studies and Phase 1 and Phase 2 clinical trials are primarily designed to test safety, study pharmacokinetics and pharmacodynamics, and understand the side effects of product candidates at various doses and schedules. Success in pre-clinical studies and early clinical trials does not ensure that later, large-scale efficacy trials will be successful nor does it predict final results. Our product candidates may fail to show the desired safety and efficacy in clinical development despite positive results in pre-clinical studies or having successfully advanced through initial clinical trials. For example, our Phase 2 LANTERN clinical trial for LYR-210 failed to meet its primary endpoint and we may be required to conduct additional trials to evaluate the efficacy of this product candidate beyond those trials we currently anticipate.

In addition, the design of a clinical trial can determine whether its results will support approval of a product, and flaws in the design of a clinical trial may not become apparent until the clinical trial is well advanced. As an organization, we have limited experience designing clinical trials and may be unable to design and execute a clinical trial to support regulatory approval. Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials even after achieving promising results in pre-clinical studies and earlier-stage clinical trials. Data obtained from pre-clinical and clinical activities are subject to varying interpretations, which may delay, limit, or prevent regulatory approval. In addition, we may experience regulatory delays or rejections as a result of many factors, including changes in regulatory policy during the period of our product candidate development. Any such delays could negatively impact our business, financial condition, results of operations, and prospects.

If the FDA does not conclude that certain of our product candidates satisfy the requirements for the Section 505(b)(2) regulatory approval pathway, or if the requirements for such product candidates under Section 505(b)(2) are not as we expect, the approval pathway for those product candidates may likely take significantly longer, cost significantly more, and entail significantly greater complications and risks than anticipated, and in either case may not be successful.

We intend to seek FDA approval for our current product candidates, LYR-210 and LYR-220, and we may seek FDA approval for future product candidates, through the Section 505(b)(2) regulatory pathway. The Drug Price Competition and Patent Term Restoration Act of 1984, also known as the Hatch-Waxman Amendments, added Section 505(b)(2) to the Federal Food, Drug and Cosmetic Act, or FDCA. Section 505(b)(2) permits the filing of an NDA where at least some of the information required for approval comes from trials that were not conducted by or for the applicant and for which the applicant has not obtained a right of reference. Section 505(b)(2), if applicable to us under the FDCA, would allow an NDA we submit to the FDA to rely in part on data in the public domain or the FDA's prior conclusions regarding the safety and effectiveness of approved drugs, which could expedite the development program for our product candidates by potentially decreasing the amount of clinical data that we would need to generate in order to obtain FDA approval. If the FDA does not allow us to pursue the Section 505(b)(2) regulatory pathway as we anticipate, we may need to conduct additional clinical trials, provide additional data and information, and meet additional standards for regulatory approval. If this were to occur, the time and financial resources required to obtain FDA approval for our product candidates, and complications and risks associated with the development of our product candidates, would likely substantially increase. Moreover, inability to pursue the Section 505(b)(2) regulatory pathway could result in competitive products reaching the market before our product candidates, which could impact our competitive position and prospects. Even if we are allowed to pursue the Section 505(b)(2) regulatory pathway, we cannot assure you that our product candidates will receive the requisite approvals for commercialization, or that a competitor would not obtain approval first along with subsequent market exclusivity from the FDA, thereby delaying potential approval of our product.

In addition, the pharmaceutical industry is highly competitive, and Section 505(b)(2) NDAs are subject to special requirements designed to protect the patent rights of sponsors of previously approved drugs that are referenced in a Section 505(b)(2) NDA. These requirements may give rise to patent litigation and mandatory delays in approval of our NDAs for up to 30 months or longer depending on the outcome of any litigation. It is not uncommon for a manufacturer of an approved product to file a citizen petition with the FDA seeking to delay approval of, or impose additional approval requirements for, pending competing products. If successful, such petitions can significantly delay, or even prevent, the approval of the new product. However, even if the FDA ultimately denies such a petition, the FDA may substantially delay approval while it considers and responds to the petition. In addition, even if we are able to utilize the Section 505(b)(2) regulatory pathway, there is no guarantee this would ultimately lead to accelerated product development or earlier approval.

Moreover, even if our product candidates are approved under Section 505(b)(2), the approval may be subject to limitations on the indicated uses for which the products may be marketed or to other conditions of approval, or may contain requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the products.

We have conducted, are conducting, and, in the future, may conduct clinical trials for our product candidates in sites outside the United States, and the FDA may not accept data from trials conducted in foreign locations.

We have conducted and are conducting clinical trials for LYR-210 outside the United States, specifically in Australia, Austria, Czech Republic, New Zealand, and Poland, and we may in the future choose to conduct other clinical trials outside the United States for LYR-210, LYR-220, or any of our other future product candidates. Although the FDA may accept data from clinical trials conducted outside the United States, acceptance of this data is subject to certain conditions imposed by the FDA. For example, the clinical trial must be well designed and conducted and performed by qualified investigators in accordance with GCP, including review and approval by an IEC and receipt of informed consent from subjects. In general, the patient population for any clinical trials conducted outside of the United States must be representative of the population for which we intend to seek approval for the product in the United States. In addition, while these clinical trials are subject to the applicable local laws, FDA acceptance of the data will be dependent upon its determination that the trials also complied with all applicable U.S. laws and regulations. There can be no assurance the FDA will accept data from trials conducted outside of the United States. If the FDA does not accept the data from our clinical trials of our product candidates, it would likely result in the need for additional trials, which would be costly and time-consuming and delay or permanently halt our development of our product candidates.

In addition, there are risks inherent in conducting clinical trials in multiple jurisdictions, inside and outside of the United States, such as:

- regulatory and administrative requirements of the jurisdiction where the trial is conducted that could burden or limit our ability to conduct our clinical trials;
- foreign exchange fluctuations;
- manufacturing, customs, shipment, and storage requirements;
- cultural differences in medical practice and clinical research; and
- the risk that the patient populations in such trials are not considered representative as compared to the patient population in the target markets where approval is being sought.

Interim and preliminary data from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data.

From time to time, we may publish interim or preliminary data from our clinical trials. Interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available. Interim or preliminary data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, interim and preliminary data should be viewed with caution until the final data are available. Differences between interim or preliminary data and final data could significantly harm our business prospects.

LYR-210 and LYR-220 are drug-device combinations, which may result in additional regulatory and other risks.

LYR-210 and LYR-220 are drug-device combination products. We may experience delays in obtaining regulatory approval of these product candidates given the increased complexity of the review process when approval of a drug and a delivery device is sought under a single marketing application. Both LYR-210 and LYR-220 will be regulated as drug-device combination products, which require coordination within the FDA and similar foreign regulatory agencies for review of the product candidates' device and drug components. The determination whether a combination product requires a single marketing application or two separate marketing applications for each component is made by the FDA on a case-by-case basis. Although we believe a single marketing application for the approval of a combination product would be successful, there can be no assurance that the FDA will not determine that separate marketing applications are necessary. This determination could significantly increase the resources and time required to bring a particular combination product to

market. Although the FDA and similar foreign regulatory agencies have systems in place for the review and approval of combination products such as ours, we may experience delays in the development and commercialization of our product candidates due to regulatory timing constraints and uncertainties in the product development and approval process, as well as coordination between two different centers within FDA responsible for review of the different components of the combination product.

On November 8, 2022, we announced a pause in enrollment of ENLIGHTEN II to align with internal manufacturing timelines for clinical trial supply. We will focus our resources on the timely completion of ENLIGHTEN I during this period. Moving forward, we intend to utilize our internal manufacturing capabilities in order to supply the entire ENLIGHTEN clinical program and mitigate any further risk to overall program timelines. We believe that focusing on our internal manufacturing capabilities reduces risk associated with technology transfer to third parties. We expect to resume enrollment in ENLIGHTEN II in the second quarter of 2023.

Failure to successfully develop or supply the device component, delays in or failure of the studies conducted by us, our collaborators, or third-party providers, or failure of our Company, our collaborators, or third-party providers to obtain or maintain regulatory approval or clearance of the device component of LYR-210 or LYR-220, as appropriate, could result in increased development costs, delays in or failure to obtain regulatory approval, and associated delays in these product candidates reaching the market. Further, failure to successfully develop or supply the device, or to gain or maintain its approval, could adversely affect sales of LYR-210 and LYR-220.

If we fail to obtain the necessary U.S. regulatory approvals to commercialize any product candidate, we will not be able to generate revenue in the U.S. market.

We cannot assure you that we will receive the approvals necessary to commercialize our product candidates, or any product candidate we acquire or develop in the future. We will need FDA approval to commercialize our product candidates in the United States and approvals from equivalent regulatory authorities in foreign jurisdictions to commercialize our product candidates in those jurisdictions. Satisfaction of the FDA's regulatory requirements typically takes many years, depends upon the type, complexity, and novelty of the product candidate, and requires substantial resources for research, development, and testing. We cannot predict whether our research and clinical efforts will result in drugs that the FDA will determine are safe for humans and effective for their intended uses. The FDA has substantial discretion in the drug approval process and may require us to conduct additional pre-clinical and clinical testing, perform post-marketing studies, address manufacturing concerns, or otherwise limit or impose conditions on any approval we obtain. The approval process may also be delayed by changes in government regulation, the impact of COVID-19, future legislation or administrative action, or changes in FDA policy that occur prior to or during our regulatory review. Delays in obtaining regulatory approvals may:

- delay commercialization of, and our ability to derive product revenues from, our product candidates;
- impose costly procedures on us; and
- diminish any competitive advantages that we may otherwise enjoy.

Even if we receive approval of an NDA or comparable foreign regulatory filing for our product candidates, the FDA or the applicable foreign regulatory body may approve our product candidates for a more limited indication than we originally requested, and the FDA may not approve the labeling that we believe is necessary or desirable for the successful commercialization of our product candidates.

Even if we comply with all FDA requests, the FDA may ultimately reject one or more of our NDAs. We cannot be sure that we will ever obtain regulatory clearance for our product candidates. Failure to obtain FDA approval of our product candidates will severely undermine our business by leaving us without a commercially available product, and therefore without any source of revenues, until another product candidate can be developed or obtained and ultimately approved. There is no guarantee that we will ever be able to develop or acquire another product candidate or that we will be able to obtain FDA approval to commercialize such product candidate.

Even if we obtain FDA approval for our product candidates in the United States, we may never obtain approval for or commercialize them in any other jurisdiction, which would limit our ability to realize their full market potential.

We intend, either on our own or through collaborations or partnerships, to market our products in international markets. In order to market any products in the European Union and many other foreign jurisdictions, we must establish and comply with numerous and varying regulatory requirements on a country-by-country basis regarding safety and efficacy. Approval by the FDA in the United States does not ensure approval by regulatory authorities in other countries or jurisdictions. However, the failure to obtain approval in one jurisdiction may negatively impact our ability to obtain approval elsewhere. In addition, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory approval in one country does not guarantee regulatory approval in any other country.

Approval processes vary among countries and can involve additional product testing and validation and additional administrative review periods. Seeking foreign regulatory approval could result in difficulties and increased costs for us and require additional pre-clinical studies or clinical trials which could be costly and time consuming. Regulatory requirements can vary widely from country to country and could delay or prevent the introduction of our products in those countries. We do not have any product candidates approved for sale in any jurisdiction, including in international markets, and we do not have experience in obtaining regulatory approval in international markets. If we fail to comply with regulatory requirements in international markets or to obtain and maintain required approvals, or if regulatory approvals in international markets are delayed, our target market will be reduced and our ability to realize the full market potential of any product we develop will be unrealized.

The regulatory approval processes of the FDA and comparable foreign authorities are lengthy, costly, time-consuming, and inherently unpredictable, and if we are ultimately unable to obtain regulatory approval for our product candidates, our business will be substantially harmed. We cannot predict when or if, and in which territories, we, or any of our potential future collaborators, will obtain marketing approval to commercialize a product candidate.

The time required to obtain approval by the FDA and comparable foreign authorities is unpredictable but typically takes many years following the commencement of clinical trials and depends upon numerous factors, including substantial discretion of regulatory authorities. In addition, approval policies, regulations, or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions. We have not obtained regulatory approval for any product candidate and it is possible that neither LYR-210, LYR-220, nor any future product candidates we may seek to develop in the future will ever obtain regulatory approval. Neither we nor any future collaborator is permitted to market any of our product candidates in the United States until we receive regulatory approval of an NDA from the FDA. It is possible that the FDA may refuse to accept for substantive review any NDAs that we submit for our product candidates or may conclude after review of our data that our application is insufficient to obtain marketing approval of our product candidates.

Prior to obtaining approval to commercialize a product candidate in the United States or abroad, we or our collaborators must demonstrate with substantial evidence from well-controlled clinical trials, and to the satisfaction of the FDA or foreign regulatory agencies, that such product candidates are safe and effective for their intended uses in patients. Results from non-clinical studies and clinical trials can be interpreted in different ways. Even if we believe the non-clinical or clinical data for our product candidates are promising, such data may not be sufficient to support approval by the FDA and other regulatory authorities. The FDA may also require us to conduct additional pre-clinical studies or clinical trials for our product candidates either prior to or post-approval, or it may object to elements of our clinical development program. Depending on the extent of these or any other FDA-required studies, approval of any NDA or other application that we submit may be delayed by several years, or may require us to expend significantly more resources than we have available.

Of the large number of potential products in development, only a small percentage successfully complete the FDA or foreign regulatory approval processes and are commercialized. The lengthy and costly approval process as well as the unpredictability of future clinical trial results may result in our failing to obtain regulatory approval to market our product candidates, which would significantly harm our business, results of operations, and prospects.

Moreover, principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and receive compensation in connection with such services. Under certain circumstances, we may be required to report some of these relationships to the FDA or comparable foreign regulatory authorities. The FDA or comparable foreign regulatory authorities may conclude that a financial relationship between us and a principal investigator has created a conflict of interest or otherwise affected interpretation of the study. The FDA or comparable foreign regulatory authorities may therefore question the integrity of the data generated at the applicable clinical trial site and the utility of the clinical trial itself

may be jeopardized. This could result in a delay in approval, or rejection, of our marketing applications by the FDA or comparable foreign regulatory authorities, as the case may be, and may ultimately lead to the denial of marketing approval of one or more of our product candidates.

Separately, in response to the COVID-19 pandemic the FDA postponed most inspections of domestic and foreign manufacturing facilities at various points. Even though the FDA has since resumed standard inspection operations of domestic facilities where feasible, the FDA has continued to monitor and implement changes to its inspectional activities to ensure the safety of its employees and those of the firms it regulates as it adapts to the evolving COVID-19 pandemic, and any resurgence of the virus or emergence of new variants may lead to further inspectional delays. Regulatory authorities outside the United States may adopt similar restrictions or other policy measures in response to the COVID-19 pandemic, including providing guidance regarding the conduct of clinical trials. If global health concerns continue to prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA or other regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

If we encounter delays or difficulties enrolling patients in our clinical trials, our clinical development activities and receipt of regulatory approvals could be delayed or otherwise adversely affected.

The timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients who remain in the trial until its conclusion. For example, we were unable to enroll patients in our Phase 2 LANTERN clinical trial in the United States from whom we intended to collect certain additional pharmacokinetic data due to the COVID-19 pandemic, and, as a result, we initiated a separate characterization study in September 2020 as a follow-on to our Phase 2 LANTERN clinical trial in order to collect such data. Trials may be subject to delays as a result of patient enrollment taking longer than anticipated or patient withdrawal. We may encounter delays in enrolling, or be unable to enroll, a sufficient number of patients to complete any of our clinical trials, and even once enrolled we may be unable to retain a sufficient number of patients to complete any of our trials. We may not be able to initiate or continue clinical trials for our product candidates if we are unable to locate and enroll a sufficient number of eligible patients to participate in these trials as required by the FDA or similar regulatory authorities outside the United States. We cannot predict how successful we will be at enrolling subjects in future clinical trials. The enrollment of patients depends on many factors, including:

- the patient eligibility criteria defined in the protocol;
- the size of the patient population required for analysis of the trial's primary endpoints;
- the proximity of patients to trial sites;
- the design of the trial;
- our ability to recruit clinical trial investigators with the appropriate competencies and experience;
- clinicians' and patients' perceptions as to the potential advantages of the product candidate being studied in relation to other available therapies, including any new products that may be approved for the indications we are investigating;
- the perceived risks and benefits of the product candidate in the trial;
- the availability of alternative therapies;
- our ability to obtain and maintain patient consents;
- the risk that patients enrolled in clinical trials will drop out of the trials before completion; and
- the impact of ongoing COVID-19.

In addition, our clinical trials will compete with other clinical trials for product candidates that are in the same therapeutic areas as our product candidates, and this competition will reduce the number and types of patients available to us,

because some patients who might have opted to enroll in our trials may instead opt to enroll in a trial being conducted by one of our competitors. Since the number of qualified clinical investigators is limited, we expect to conduct some of our clinical trials at the same clinical trial sites that some of our competitors use, which will reduce the number of patients who are available for our clinical trials in such clinical trial site.

Delays or failures in planned patient enrollment or retention may result in increased costs, program delays, or both, which could have a harmful effect on our ability to develop LYR-210, LYR-220, and/or any other future product candidates, or could render further development impossible.

Our product candidates may cause serious adverse events or undesirable side effects including injury and death or have other properties which may delay or prevent their regulatory approval, limit the commercial profile of an approved label, or result in significant negative consequences following marketing approval. If any of our product candidates receives marketing approval and we, or others, later discover that the drug is less effective than previously believed or causes undesirable side effects that were not previously identified, our ability, or that of any potential future collaborators, to market the drug could be compromised.

Before obtaining regulatory approvals for the commercial sale of our product candidates, we must demonstrate through lengthy, complex, and expensive pre-clinical testing and clinical trials that our product candidates are both safe and effective for use in each target indication, and failures can occur at any stage of testing. Clinical trials often fail to demonstrate safety and efficacy of the product candidate studied for the target indication. Serious adverse events, or SAEs, or undesirable side effects caused by our product candidates could cause us or regulatory authorities to interrupt, delay, or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other comparable foreign authorities. Results of our clinical trials or pre-clinical studies could reveal a high and unacceptable severity and prevalence of side effects, toxicities, or unexpected characteristics, including death. For example, in our Phase 1 clinical trial for our most advanced product candidate, LYR-210, there was one SAE in the active group (acute myocardial infarction), which was considered not related to LYR-210. For more information, see “Business—LYR-210 for the Treatment of CRS—Overview of Our Clinical Development for LYR-210” in this Annual Report on Form 10-K.

In addition, subjects treated with LYR-210 have experienced adverse events, including epistaxis, rhinitis, rhinorrhea, facial pain, nasopharyngitis, sinusitis, upper respiratory tract infection, procedural headache, nasal discomfort, and nasal odor, among others. In our Phase 2 LANTERN clinical trial, treatment-related adverse events were reported in 16 patients, and all treatment-related adverse events except one (increased viscosity of upper respiratory secretion) were mild or moderate in nature. In addition, there was one patient in the LYR-210 (2,500 µg) group who had a serious adverse event of acarodermatitis in our Phase 2 LANTERN clinical trial, which was deemed to be not related to treatment.

If unacceptable side effects arise in the development of our product candidates, we, the FDA, the IRBs at the institutions in which our studies are conducted, or DSMB, could materially modify, suspend, or terminate our clinical trials or the FDA or comparable foreign regulatory authorities could order us to cease pre-clinical studies or clinical trials, require us to conduct additional animal or human studies regarding the safety and efficacy of our product candidates which we have not planned or anticipated, or deny approval of our product candidates for any or all targeted indications. Many product candidates that initially showed promise in early-stage testing have later been found to cause side effects that prevented further development of the product candidate. Treatment-related side effects could also affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. In addition, these side effects may not be appropriately recognized or managed by the treating medical staff. We currently train and expect to have to train medical personnel using our product candidates to understand the side effect profiles for our clinical trials and upon any commercialization of any of our product candidates. Inadequate training in recognizing or managing the potential side effects of our product candidates could result in patient injury or death. Any of these occurrences may harm our business, financial condition, and prospects significantly.

If any of our product candidates receives marketing approval, and we or others later identify undesirable side effects caused by any such product, including during any long-term follow-up observation period recommended or required for patients who receive treatment using our products, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw approvals of such product;
- we may be required to recall a product or change the way such product is administered to patients;

- additional restrictions may be imposed on the marketing of the particular product or the manufacturing processes for the product;
- regulatory authorities may require additional warnings on the label, such as a “black box” warning or contraindication;
- regulatory authorities may require long-term patient registries for the product;
- we may be required to implement a Risk Evaluation and Mitigation Strategy, or REMS, or create a medication guide outlining the risks of such side effects for distribution to patients;
- the product could become less competitive;
- we could be sued and held liable for harm caused to patients; and
- our reputation may suffer.

There can be no assurance that we will resolve any issues related to any product-related adverse events to the satisfaction of the FDA or any regulatory agency in a timely manner or at all. Any of these events could prevent us from achieving or maintaining market acceptance of the particular product candidate, if approved, and could significantly harm our business, results of operations, and prospects.

Changes in methods of product candidate manufacturing or formulation may result in additional costs or delay.

As product candidates proceed through pre-clinical studies to late-stage clinical trials towards potential approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods and formulation, are altered along the way in an effort to optimize processes and results or in the process of conducting technology transfer with contract manufacturers. Such changes carry the risk that they will not achieve these intended objectives. Any of these changes could cause our product candidates to perform differently and affect the results of planned clinical trials or other future clinical trials conducted with the altered materials. Such changes may also require additional testing, FDA notification or FDA approval. This could delay completion of clinical trials, require the conduct of bridging clinical trials or the repetition of one or more clinical trials, increase clinical trial costs, delay approval of our product candidates and jeopardize our ability to commence sales and generate revenue.

Our insurance policies are expensive and protect us only from some business risks, which leaves us exposed to significant uninsured liabilities.

We do not carry insurance for all categories of risk that our business may encounter. Some of the policies we currently maintain include general liability, employment practices liability, and property, auto, workers’ compensation, umbrella, and directors’ and officers’ insurance.

Any additional product liability insurance coverage we acquire in the future 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 we obtain marketing approval for LYR-210 and/or LYR-220, we intend to acquire 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. A successful product liability claim or series of claims brought against us could cause our share price to decline and, if judgments exceed our insurance coverage, could adversely affect our results of operations and business, including preventing or limiting the development and commercialization of any product candidates we develop. We do not carry specific biological or hazardous waste insurance coverage, and our property, casualty, and general liability insurance policies specifically exclude coverage for damages and fines arising from biological or hazardous waste exposure or contamination. Accordingly, in the event of contamination or injury, we could be held liable for damages or be penalized with fines in an amount exceeding our resources, and our clinical trials or regulatory approvals could be suspended.

Operating as a public company has made it more difficult and more expensive for us to obtain director and officer liability insurance, and in the future we may be required to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. As a result, it may be more difficult for us to attract and

retain qualified people to serve on our board of directors, our board committees, or as executive officers. We do not know, however, if we will be able to maintain existing insurance with adequate levels of coverage. Any significant uninsured liability may require us to pay substantial amounts, which would adversely affect our cash position and results of operations.

Our employees and independent contractors, including principal investigators, CROs, consultants, vendors, and any third parties we may engage in connection with research, development, regulatory, manufacturing, quality assurance, and other pharmaceutical functions and commercialization may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could have a material adverse effect on our business.

Misconduct by our employees and independent contractors, including principal investigators, CROs, consultants, vendors, and any third parties we may engage in connection with research, development, regulatory, manufacturing, quality assurance, and other pharmaceutical functions and commercialization, could include intentional, reckless, or negligent conduct or unauthorized activities that violate: (i) the laws and regulations of the FDA, the European Medicines Agency, or the EMA, and other similar regulatory authorities, including those laws that require the reporting of true, complete, and accurate information to such authorities; (ii) manufacturing standards; (iii) data privacy, security, fraud and abuse, and other healthcare laws and regulations; or (iv) laws that require the reporting of true, complete, and accurate financial information and data. Specifically, 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. Activities subject to these laws could also involve the improper use or misrepresentation of information obtained in the course of pre-clinical studies or clinical trials, creation of fraudulent data in pre-clinical studies or clinical trials, or illegal misappropriation of drug product, which could result in regulatory sanctions and cause serious harm to our reputation. It is not always possible to identify and deter misconduct by employees and other third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with such laws or regulations. Additionally, we are subject to the risk that a person or government could allege such fraud or other misconduct, even if none occurred. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business and results of operations, including the imposition of significant civil, criminal, and administrative penalties, damages, monetary fines, disgorgements, possible exclusion from participation in Medicare, Medicaid, other U.S. federal healthcare programs or healthcare programs in other jurisdictions, integrity oversight and reporting obligations to resolve allegations of non-compliance, individual imprisonment, other sanctions, contractual damages, reputational harm, diminished profits and future earnings, and curtailment of our operations.

Our business and operations would suffer in the event of system failures.

Our computer systems, as well as those of our CROs and other contractors, vendors, suppliers, and consultants, are vulnerable to damage from computer viruses, unauthorized access, natural disasters (including hurricanes), terrorism, war (including the war between Russia and Ukraine), and telecommunication and electrical failures. If such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our product candidate development programs and our business. For example, the loss of pre-clinical studies or clinical trial data from completed, ongoing, or planned trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of or damage to our data or applications, or inappropriate disclosure of personal, confidential, or proprietary information, we could incur liability and the further development of LYR-210, LYR-220, or any other product candidate could be delayed.

In the ordinary course of our business, we directly or indirectly collect and store sensitive data, including intellectual property, confidential information, pre-clinical and clinical trial data, proprietary business information, personal data, and personally identifiable health information of our clinical trial subjects and employees, in our data centers and on our networks, or on those of third parties. The secure processing, maintenance, and transmission of this information is critical to our operations. Despite our security measures, our information technology and infrastructure has been and, from time to time, may be vulnerable to attacks by hackers or internal bad actors, or breached due to employee error, a technical vulnerability, malfeasance, or other disruptions. For example, companies have experienced an increase in phishing and social engineering attacks from third parties in connection with COVID-19. Although, to our knowledge, we have not experienced any material security breach to date, any such breach could compromise our networks and the information stored there could be accessed, publicly disclosed, lost, or stolen. Any such access, disclosure, or other loss of information could result in legal claims or proceedings, liability under laws that protect the privacy of personal information, or significant regulatory penalties, and such an event could disrupt our operations, damage our reputation, and cause a loss of confidence in us and our ability to conduct

clinical trials, which could adversely affect our business reputation and delay our clinical development of our product candidates.

Risks Related to Healthcare Laws and Other Legal Compliance Matters

We will be subject to extensive and costly government regulation.

Product candidates employing our technology will be subject to extensive and rigorous domestic government regulation including regulation by the FDA, the Centers for Medicare and Medicaid Services, or CMS, other divisions of the United States Department of Health and Human Services, the United States Department of Justice, state and local governments, and their respective equivalents outside of the United States. The FDA regulates the research, development, pre-clinical and clinical testing, manufacture, safety, effectiveness, record-keeping, reporting, labeling, packaging, storage, approval, advertising, promotion, sale, distribution, import, and export of pharmaceutical products. If products employing our technologies are marketed abroad, they will also be subject to extensive regulation by foreign governments, whether or not they have obtained FDA approval for a given product and its uses. Such foreign regulation may be equally or more demanding than corresponding United States regulation.

Government regulation substantially increases the cost and risk of researching, developing, manufacturing, and selling our products. The regulatory review and approval process, which includes pre-clinical testing and clinical trials of each product candidate, is lengthy, expensive, and uncertain. We or our collaborators must obtain and maintain regulatory authorization to conduct pre-clinical studies and clinical trials. We or our collaborators must obtain regulatory approval for each product we intend to market, and the manufacturing facilities used for the products must be inspected and meet legal requirements. Securing regulatory approval requires the submission of extensive pre-clinical and clinical data and other supporting information for each proposed therapeutic indication in order to establish the product's safety and efficacy, potency, and purity, for each intended use. The development and approval process takes many years, requires substantial resources, and may never lead to the approval of a product.

Even if we are able to obtain regulatory approval for a particular product, the approval may limit the indicated medical uses for the product, may otherwise limit our ability to promote, sell, and distribute the product, may require that we conduct costly post-marketing surveillance, and/or may require that we conduct ongoing post-marketing studies. Material changes to an approved product, such as, for example, manufacturing changes or revised labeling, may require further regulatory review and approval. Once obtained, any approvals may be withdrawn, including, for example, if there is a later discovery of previously unknown problems with the product, such as a previously unknown safety issue.

If we, our collaborators, consultants, contract manufacturers, CROs, or other vendors fail to comply with applicable regulatory requirements at any stage during the regulatory process, such noncompliance could result in, among other things, delays in the approval of applications or supplements to approved applications; refusal of a regulatory authority, including the FDA, to review pending market approval applications or supplements to approved applications; warning letters; fines; import and/or export restrictions; product recalls or seizures; injunctions; total or partial suspension of production; civil penalties; withdrawals of previously approved marketing applications or licenses; recommendations by the FDA or other regulatory authorities against governmental contracts; and/or criminal prosecutions.

Enacted and future healthcare legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates and could adversely affect our business.

In the United States, the EU, and other jurisdictions, there have been, and we expect there will continue to be, a number of legislative and regulatory changes and proposed changes to the healthcare system that could prevent or delay marketing approval of our products in development, restrict or regulate post-approval activities involving any product candidates for which we obtain marketing approval, impact pricing and reimbursement, and impact our ability to sell any such products profitably. In particular, there have been and continue to be a number of initiatives at the U.S. federal and state levels that seek to reduce healthcare costs and improve the quality of healthcare. In addition, new regulations and interpretations of existing healthcare statutes and regulations are frequently adopted.

In March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively the ACA, was enacted, which substantially changed the way healthcare is financed by both governmental and private insurers. Among the provisions of the ACA, those of greatest importance to the pharmaceutical and biotechnology industries include the following:

- an annual, non-deductible fee payable by any entity that manufactures or imports certain branded prescription drugs and biologic agents (other than those designated as orphan drugs), which is apportioned among these entities according to their market share in certain government healthcare programs;
- a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer point-of-sale discounts off 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;
- new requirements to report certain financial arrangements with physicians and teaching hospitals, including reporting "transfers of value" made or distributed to prescribers and other healthcare providers and reporting investment interests held by physicians and their immediate family members;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program to 23.1% and 13.0% of the average manufacturer price for branded and generic drugs, respectively;
- a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted, or injected;
- extension of a manufacturer's Medicaid rebate liability to covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations;
- expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to certain individuals with income at or below 133% of the federal poverty level, thereby potentially increasing a manufacturer's Medicaid rebate liability;
- 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
- establishment of a Center for Medicare Innovation at CMS to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA, and we expect there will be additional challenges and amendments to the ACA in the future. On March 2, 2020, the U.S. Supreme Court granted the petitions for writs of certiorari to review the constitutionality of the ACA, although it is unclear when or how the Supreme Court will rule. It is also unclear how other efforts to challenge, repeal, or replace the ACA will impact the law and may impact our business or financial condition.

In addition, other legislative changes have been proposed and adopted in the United States since the ACA was enacted. In August 2011, the Budget Control Act of 2011 resulted in aggregate reductions of Medicare payments to providers of 2% per fiscal year, which went into effect in April 2013 and, due to subsequent legislative amendments to the statute, will remain in effect through 2030, unless additional action is taken by Congress. In January 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, further reduced Medicare payments to several types of providers, including hospitals, imaging centers, and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws or any other similar laws introduced in the future may result in additional reductions in Medicare and other healthcare funding, which could negatively affect our customers and accordingly, our financial operations.

Moreover, payment methodologies may be subject to changes in healthcare legislation and regulatory initiatives. For example, CMS may develop new payment and delivery models, such as bundled payment models. In addition, recently there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several U.S. Congressional inquiries and proposed and enacted federal legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, and review the relationship between pricing and manufacturer patient programs. While any proposed measures will require authorization through additional legislation to become effective, Congress has indicated that it will continue to seek new legislative and/or administrative measures to control drug costs. We expect that additional U.S. federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that the U.S. federal government will pay for

healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

Individual states in the United States have also 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, designed to encourage importation from other countries and bulk purchasing. Legally-mandated price controls on payment amounts by third-party payors or other restrictions could harm our business, results of operations, financial condition, and prospects. In addition, regional healthcare authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other healthcare programs. This could reduce the ultimate demand for our product candidates or put pressure on our product pricing.

In the EU, similar political, economic, and regulatory developments may affect our ability to profitably commercialize our product candidates, if approved. In addition to continuing pressure on prices and cost containment measures, legislative developments at the EU or member state level may result in significant additional requirements or obstacles that may increase our operating costs. The delivery of healthcare in the EU, including the establishment and operation of health services and the pricing and reimbursement of medicines, is almost exclusively a matter for national, rather than EU, law and policy. National governments and health service providers have different priorities and approaches to the delivery of healthcare and the pricing and reimbursement of products in that context. In general, however, the healthcare budgetary constraints in most EU member states have resulted in restrictions on the pricing and reimbursement of medicines by relevant health service providers. Coupled with ever-increasing EU and national regulatory burdens on those wishing to develop and market products, this could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities, and affect our ability to commercialize our product candidates, if approved.

In markets outside of the United States and the EU, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies.

In addition, legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. We cannot be sure whether additional legislative changes will be enacted, or whether the FDA's regulations, guidance, or interpretations will be changed, or what the impact of such changes on the marketing approvals of our product candidates, if any, may be. In addition, increased scrutiny by the U.S. Congress of the FDA's approval process may significantly delay or prevent marketing approval, as well as subject us to more stringent product labeling and post-marketing testing and other requirements.

We cannot predict the likelihood, nature, or extent of government regulation that may arise from future legislation or administrative action in the United States, the EU, or any other jurisdiction. If we or any third parties we may engage are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we or such third parties are not able to maintain regulatory compliance, our product candidates may lose any regulatory approval that may have been obtained and we may not achieve or sustain profitability.

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

Any product candidate for which we obtain marketing approval, along with the manufacturing processes, post-approval clinical data, labeling, packaging, distribution, adverse event reporting, storage, recordkeeping, export, import, and advertising and promotional activities for such product, among other things, will be subject to extensive and ongoing requirements of and review by the FDA, the EMA, and other regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, establishment registration and drug listing requirements, continued compliance with cGMP requirements relating to manufacturing, quality control, quality assurance, and corresponding maintenance of records and documents, requirements regarding the distribution of samples to physicians, and recordkeeping and GCP requirements for any clinical trials that we conduct post-approval. In addition, the sponsor of an approved NDA is subject to periodic inspections and other FDA monitoring and reporting obligations, including obligations to monitor and report adverse events and other information such as the failure of a product to meet the specifications in the NDA. NDA sponsors must submit new or supplemental applications and obtain FDA approval for certain changes to the approved product, product labeling, or manufacturing process. Application holders must also submit advertising and other promotional material to the FDA and report on ongoing clinical trials. The FDA may require changes in the labeling of

already approved drug products and require that sponsors conduct post-marketing studies. Accordingly, we and others with whom we work must continue to expend time, money, and effort in all areas of regulatory compliance, including manufacturing, production, and quality control.

Even if marketing approval of a product candidate is granted, the approval may be subject to limitations on the indicated uses for which the product may be marketed or to the conditions of approval, including the requirement to implement a REMS, which could include requirements for a medication guide, physician communication plans, or additional elements to ensure safe use, such as restricted distribution methods, patient registries, and other risk mitigation tools. If any of our product candidates receives marketing approval, the accompanying label may limit the approved use of our product, which could limit sales of the product.

The FDA may also impose requirements for costly post-marketing studies or clinical trials and surveillance to monitor the safety or efficacy of our approved products. In addition, advertising and promotional materials must comply with FDA rules in addition to other potentially applicable federal and state laws. The FDA closely regulates the post-approval marketing and promotion of drugs to ensure they are marketed only for the approved indications and in accordance with the provisions of the approved labeling. The FDA imposes stringent restrictions on manufacturers' communications regarding off-label use, and if we market our products outside of their approved indications, we may be subject to enforcement action for off-label marketing. Violations of the FDA's restrictions relating to the promotion of prescription products may also lead to investigations alleging violations of federal and state health care fraud and abuse laws, as well as state consumer protection laws.

The distribution of product samples to physicians must comply with the requirements of the FDCA. NDA sponsors must obtain FDA approval for product, manufacturing, and labeling changes, depending on the nature of the change. Depending on the circumstances, failure to meet these post-approval requirements can result in criminal prosecution, fines, injunctions, consent decrees of permanent injunction, recall or seizure of products, total or partial suspension of production, denial or withdrawal of pre-marketing product approvals, or refusal to allow us to enter into supply contracts, including government contracts.

In addition, later discovery of previously unknown adverse events or other problems with our products, manufacturers, or manufacturing processes, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may yield various results, including:

- restrictions on manufacturing such products;
- restrictions on the labeling or marketing of a product;
- restrictions on product distribution or use;
- requirements to conduct post-marketing studies or clinical trials;
- warning letters or holds on clinical trials;
- withdrawal of the products from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of products;
- fines, restitution, or disgorgement of profits or revenues;
- suspension or withdrawal of marketing approvals;
- refusal to permit the import or export of our products;
- product seizure or detention; or

- injunctions or the imposition of civil or criminal penalties.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response, and could generate negative publicity. Any failure to comply with ongoing regulatory requirements may significantly and adversely affect our ability to commercialize and generate revenues. If regulatory sanctions are applied or if regulatory approval is withheld or withdrawn, the value of our Company and our operating results will be adversely affected.

The FDA's policies may change and additional government regulations may be enacted that could prevent, limit, or delay regulatory approval of LYR-210, LYR-220, and/or any other future product candidate. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained which would adversely affect our business, prospects, and ability to achieve or sustain profitability.

Changes in funding for the FDA and other government agencies could hinder their ability to hire and retain key leadership and other personnel, or otherwise prevent new products and services from being developed, approved, or commercialized in a timely manner, or at all, which could negatively impact our business.

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

Disruptions at the FDA and other agencies may also slow the time necessary for 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, have had to furlough critical employees and stop critical activities.

Separately, in response to the COVID-19 pandemic, on March 10, 2020 the FDA announced its intention to postpone most inspections of foreign manufacturing facilities and products through April 2020, and on March 18, 2020, the FDA temporarily postponed routine surveillance inspections of domestic manufacturing facilities. Subsequently, on July 10, 2020, the FDA announced its intention to resume certain on-site inspections of domestic manufacturing facilities subject to a risk-based prioritization system. The FDA utilized this risk-based assessment system to assist in determining when and where it was safe to conduct prioritized domestic inspections. Additionally, on April 15, 2021, the FDA issued a guidance document in which the FDA described its plans to conduct voluntary remote interactive evaluations of certain drug manufacturing facilities and clinical research sites, among other facilities. According to the guidance, the FDA may request such remote interactive evaluations in situations where an in-person inspection would not be prioritized, deemed mission-critical, or where direct inspection is otherwise limited by travel restrictions, but where the FDA determines that remote evaluation would be appropriate. In May 2021, the FDA outlined a detailed plan to move toward a more consistent state of inspectional operations, and in July 2021, the FDA resumed standard inspectional operations of domestic facilities and was continuing to maintain this level of operation as of September 2021. More recently, the FDA has continued to monitor and implement changes to its inspectional activities to ensure the safety of its employees and those of the firms it regulates as it adapts to the evolving COVID-19 pandemic. Regulatory authorities outside the United States may adopt similar restrictions or other policy measures in response to the COVID-19 pandemic, including providing guidance regarding the conduct of clinical trials. If a prolonged government shutdown occurs, or if global health concerns continue to prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA or other regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Further, future government shutdowns or delays could impact our ability to access the public markets and obtain necessary capital in order to properly capitalize and continue our operations.

Our business operations and current and future relationships with investigators, healthcare professionals, consultants, third-party payors, patient organizations, and customers will be subject to applicable healthcare regulatory laws, which could expose us to penalties.

Our business operations and current and future arrangements with investigators, healthcare professionals, consultants, third-party payors, patient organizations, and customers, may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations. These laws may constrain the business or financial arrangements and relationships through which we conduct our operations, including how we research, market, sell, and distribute our product candidates, if approved. Such laws include:

- the U.S. federal Anti-Kickback Statute, which prohibits, among other things, persons or entities from knowingly and willfully soliciting, offering, receiving, or providing any remuneration (including any kickback, bribe, or certain rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, lease, order, or recommendation of, any good, facility, item, or service, for which payment may be made, in whole or in part, under U.S. federal and state healthcare programs such as Medicare and Medicaid. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;
- the U.S. federal civil and criminal false claims laws, including the civil False Claims Act, which, among other things, impose criminal and civil penalties, including through civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the U.S. federal government, claims for payment or approval that are false or fraudulent, knowingly making, using, or causing to be made or used, a false record or statement material to a false or fraudulent claim, or from knowingly making a false statement to avoid, decrease, or conceal an obligation to pay money to the U.S. federal government. In addition, the government may assert that a claim including items and services resulting from a violation of the U.S. federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the False Claims Act;
- the federal civil monetary penalties laws, which impose civil fines for, among other things, the offering or transfer of remuneration to a Medicare or state healthcare program beneficiary if the person knows or should know it is likely to influence the beneficiary's selection of a particular provider, practitioner, or supplier of services reimbursable by Medicare or a state healthcare program, unless an exception applies;
- the U.S. federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which imposes criminal and civil liability for, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, or knowingly and willfully falsifying, concealing, or covering up a material fact or making any materially false statement, in connection with the delivery of, or payment for, healthcare benefits, items, or services; similar to the U.S. federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;
- the FDCA, which prohibits, among other things, the adulteration or misbranding of drugs, biologics, and medical devices;
- the U.S. Physician Payments Sunshine Act and its implementing regulations, which requires certain manufacturers of drugs, devices, biologics, and medical supplies that are reimbursable under Medicare, Medicaid, or the Children's Health Insurance Program to report annually to the government information related to certain payments and other transfers of value to physicians (defined to include doctors, dentists, optometrists, podiatrists, and chiropractors) and teaching hospitals, as well as ownership and investment interests held by the physicians described above and their immediate family members. Beginning in 2022, such obligations include payments and other transfers of value provided in the previous year to certain other healthcare professionals, including physician assistants, nurse practitioners, clinical nurse specialists, certified nurse anesthetists, and certified nurse midwives;

- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers;
- analogous U.S. state laws and regulations, including: state anti-kickback and false claims laws, which may apply to our business practices, including but not limited to, research, distribution, sales, and marketing arrangements and claims involving healthcare items or services reimbursed by any third-party payor, including private 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 U.S. federal government, or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; state laws and regulations that require drug manufacturers to file reports relating to pricing and marketing information, which requires tracking gifts and other remuneration and items of value provided to healthcare professionals and entities; and state and local laws that require the registration of pharmaceutical sales representatives; and
- similar healthcare laws and regulations in the EU and other jurisdictions, including reporting requirements detailing interactions with and payments to healthcare providers.

Ensuring that our internal operations and future business arrangements with third parties comply with applicable healthcare laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices, including our relationships with physicians and other healthcare providers, some of whom are compensated in the form of stock options for consulting services provided, may not comply with current or future statutes, regulations, agency guidance, or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of the laws described above or any other governmental laws and regulations that may apply to us, we may be subject to significant penalties, including civil, criminal, and administrative penalties, damages, fines, exclusion from government-funded healthcare programs, such as Medicare and Medicaid or similar programs in other countries or jurisdictions, integrity oversight and reporting obligations to resolve allegations of non-compliance, disgorgement, individual imprisonment, contractual damages, reputational harm, diminished profits, and the curtailment or restructuring of our operations. If any of the physicians or other providers or entities with whom we expect to do business are found to not be in compliance with applicable laws, they may be subject to criminal, civil, or administrative sanctions, including exclusions from government funded healthcare programs and imprisonment, which could affect our ability to operate our business. Further, defending against any such actions can be costly, time-consuming, and may require significant personnel resources. Therefore, even if we are successful in defending against any such actions that may be brought against us, our business may be impaired.

We are subject to governmental regulation and other legal obligations, particularly related to privacy, data protection, and information security, and we are subject to consumer protection laws that regulate our marketing practices and prohibit unfair or deceptive acts or practices. Our actual or perceived failure to comply with such obligations could harm our business.

We and our partners may be subject to diverse laws and regulations relating to data privacy and security, including, in the United States, HIPAA and, in the EU and the European Economic Area, or EEA, the General Data Protection Regulation, or the GDPR. New privacy rules are being enacted in the United States and globally, and existing ones are being updated and strengthened. For example, on June 28, 2018, California enacted the California Consumer Privacy Act, or CCPA, which took effect on January 1, 2020. The CCPA creates individual privacy rights for California consumers and increases the privacy and security obligations of entities handling certain personal information. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. Complying with these numerous, complex, and often changing regulations is expensive and difficult, and failure to comply with any privacy laws or data security laws or any security incident or breach involving the misappropriation, loss, or other unauthorized use or disclosure of sensitive or confidential patient or consumer information, whether by us or another third-party, could adversely affect our business, financial condition, and results of operations, including but not limited to: investigation costs, material fines and penalties; compensatory, special, punitive, and statutory damages; litigation; consent orders regarding our privacy and security practices; requirements that we provide notices, credit monitoring services, and/or credit restoration services or other relevant services to impacted individuals; adverse actions against our licenses to do business; and injunctive relief.

In Europe, the GDPR went into effect on May 25, 2018. The GDPR requires us, among other things, to make detailed disclosures to data subjects, to disclose the legal basis on which we can process personal data, to obtain valid consent for processing, to appoint data protection officers when sensitive personal data, such as health data, is processed on a large scale, and provides robust rights for data subjects, introduces mandatory data breach notification, imposes additional obligations on us when contracting with service providers, and requires us to adopt appropriate privacy governance including policies, procedures, training, and data audit. In addition, the GDPR increases the scrutiny of transfers of personal data from clinical trial sites located in the EEA to the United States and other jurisdictions that the European Commission does not recognize as having “adequate” data protection laws; in July 2020, the Court of Justice of the European Union limited how organizations could lawfully transfer personal data from the EEA to the United States by invalidating the EU-US Privacy Shield and imposing further restrictions on use of the standard contractual clauses, which could increase our costs and our ability to efficiently process personal data from the EEA. If we do not comply with our obligations under the GDPR, we could be exposed to fines of up to the greater of €20 million or up to 4% of our total global annual revenue in the event of a significant breach. In addition, we may be the subject of litigation and/or adverse publicity, which could adversely affect our business, results of operations, and financial condition. Additionally, following the United Kingdom’s withdrawal from the EEA and the EU, and the expiry of the transition period, companies will have to comply with the GDPR and the GDPR as incorporated into United Kingdom national law, the latter regime having the ability to separately fine up to the greater of £17.5 million or 4% of global turnover. The relationship between the United Kingdom and the EU in relation to certain aspects of data protection law remains unclear, for example around how data can lawfully be transferred between each jurisdiction, which exposes us to further compliance risk.

We cannot assure you that our third-party service providers with access to our or our customers’, suppliers’, trial patients’, and employees’ personally identifiable and other sensitive or confidential information in relation to which we are responsible will not breach contractual obligations imposed by us, or that they will not experience data security breaches or attempts thereof, which could have a corresponding effect on our business, including putting us in breach of our obligations under privacy laws and regulations and/or which could in turn adversely affect our business, results of operations, and financial condition. We cannot assure you that our contractual measures and our own privacy and security-related safeguards will protect us from the risks associated with the third-party processing, storage, and transmission of such information.

We face potential liability related to the privacy of health information we obtain from clinical trials sponsored by us.

Most healthcare providers, including research institutions from which we obtain patient health information, are subject to privacy and security regulations promulgated under HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or the HITECH Act. We are not currently classified as a covered entity or business associate under HIPAA and thus are not subject to its requirements or penalties. However, any person may be prosecuted under HIPAA’s criminal provisions either directly or under aiding-and-abetting or conspiracy principles. Consequently, depending on the facts and circumstances, we could face substantial criminal penalties if we knowingly receive individually identifiable health information from a HIPAA-covered healthcare provider or research institution that has not satisfied HIPAA’s requirements for disclosure of individually identifiable health information. In addition, we may maintain sensitive personally identifiable information, including health information, that we receive throughout the clinical trial process, in the course of our research collaborations, and directly from individuals (or their healthcare providers) who enroll in our patient assistance programs. As such, we may be subject to state laws requiring notification of affected individuals and state regulators in the event of a breach of personal information, which is a broader class of information than the health information protected by HIPAA. Our clinical trial programs outside the United States may implicate international data protection laws, including the GDPR and legislation of the EU and EEA member states implementing it.

Our activities outside the United States impose additional compliance requirements and generate additional risks of enforcement for noncompliance. Failure by our CROs and other third-party contractors to comply with the strict rules on the transfer of personal data outside of the European Union into the United States may result in the imposition of criminal and administrative sanctions on such collaborators, which could adversely affect our business. Furthermore, certain health privacy laws, data breach notification laws, consumer protection laws, and genetic testing laws may apply directly to our operations and/or those of our collaborators and may impose restrictions on our collection, use, and dissemination of individuals’ health information. The GDPR provides that EU and EEA member states may establish their own laws and regulations limiting the processing of personal data, including genetic, biometric, or health data, which could limit our ability to use and share personal data or could cause our costs to increase. Moreover, patients about whom we or our collaborators obtain health information, as well as the providers who share this information with us, may have statutory or contractual rights that limit our ability to use and disclose the information. We may be required to expend significant capital and other resources to ensure ongoing compliance with applicable privacy and data security laws. Claims that we have violated

individuals' privacy rights or breached our contractual obligations, even if we are not found liable, could be expensive and time-consuming to defend and could result in adverse publicity that could harm our business.

If we or third-party contract manufacturing organizations or CMOs, CROs, or other contractors or consultants fail to comply with applicable federal, state, or local regulatory requirements, we could be subject to a range of regulatory actions that could affect our or our contractors' ability to develop and commercialize our product candidates and could harm or prevent sales of any affected products that we are able to commercialize, or could substantially increase the costs and expenses of developing, commercializing, and marketing our products. Any threatened or actual government enforcement action could also generate adverse publicity and require that we devote substantial resources that could otherwise be used in other aspects of our business. Increasing use of social media could give rise to liability, breaches of data security, or reputational damage.

We are subject to environmental, health, and safety laws and regulations, and we may become exposed to liability and substantial expenses in connection with environmental compliance or remediation activities.

Our operations, including our development, testing, and manufacturing activities, are subject to numerous environmental, health, and safety laws and regulations. These laws and regulations govern, among other things, the controlled use, handling, release, and disposal of and the maintenance of a registry for, hazardous materials and biological materials, such as chemical solvents, human cells, carcinogenic compounds, mutagenic compounds, and compounds that have a toxic effect on reproduction, laboratory procedures, and exposure to blood-borne pathogens. If we fail to comply with such laws and regulations, we could be subject to fines or other sanctions.

As with other companies engaged in activities similar to ours, we face a risk of environmental liability inherent in our current and historical activities, including liability relating to releases of or exposure to hazardous or biological materials. Environmental, health, and safety laws and regulations are becoming more stringent. We may be required to incur substantial expenses in connection with future environmental compliance or remediation activities, in which case, the production efforts of our third-party manufacturers or our development efforts may be interrupted or delayed.

We and our employees are increasingly utilizing social media tools as a means of communication both internally and externally.

Despite our efforts to monitor evolving social media communication guidelines and comply with applicable rules, there is risk that the use of social media by us or our employees to communicate about our product candidates or business may cause us to be found in violation of applicable requirements. In addition, our employees may knowingly or inadvertently make use of social media in ways that may not comply with our policies and other legal or contractual requirements, which may give rise to liability, lead to the loss of trade secrets or other intellectual property, or result in public exposure of personal information of our employees, clinical trial patients, customers, and others. Furthermore, negative posts or comments about us or our product candidates in social media could seriously damage our reputation, brand image, and goodwill. Any of these events could have a material adverse effect on our business, prospects, operating results, and financial condition and could adversely affect the price of our common stock.

Risks Related to Commercialization

Developments by competitors may render our products or technologies obsolete or non-competitive or may reduce the size of our markets.

Our industry has been characterized by extensive research and development efforts, rapid developments in technologies, intense competition, and a strong emphasis on proprietary products. We face potential competition from many different sources, including pharmaceutical, biotechnology, and specialty pharmaceutical companies either marketing or developing therapeutics to treat CRS. Academic research institutions, governmental agencies, as well as public and private institutions are also potential sources of competitive products and technologies. Our competitors may have or may develop superior technologies or approaches, which may provide them with competitive advantages. Our potential products may not compete successfully. If these competitors access the marketplace before we do with better or less expensive therapeutics, our product candidates, if approved for commercialization, may not be profitable to sell or worthwhile to continue to develop. Technology in the pharmaceutical industry has undergone rapid and significant change, and we expect that it will continue to do so. Any compounds, products, or processes that we develop may become obsolete or uneconomical before we recover any expenses incurred in connection with their development. The success of our product candidates will depend upon factors such as product efficacy, safety, reliability, availability, timing, scope of regulatory approval, acceptance, and price, among other

things. Other important factors to our success include speed in developing product candidates, completing clinical development and laboratory testing, obtaining regulatory approvals, and manufacturing and selling commercial quantities of potential products.

Our product candidates are intended to compete directly or indirectly with existing products and treatments. Even if approved and commercialized, our product candidates may fail to achieve market acceptance with hospitals, physicians, or patients. Hospitals, physicians, or patients may conclude that our potential products are less safe or effective or otherwise less attractive than these existing drugs. If our product candidates do not receive market acceptance for any reason, our revenue potential would be diminished, which would materially adversely affect our ability to become profitable.

Significant competition exists in the treatment of polyps. We will need to compete with all currently available or future therapies within the indications where our development is focused. LYR-210, if approved and commercialized, will face significant competition. The main classes of marketed products that are available for the treatment of polyps include nasal saline irrigation, intranasal corticosteroidal sprays and antibiotics, as well as surgical intervention. In addition, three companies are currently marketing, and several companies are also currently developing, biologic monoclonal antibodies, or mAbs, for the treatment of nasal polyps. If these biologic mAbs are successfully developed and approved for marketing, they could represent competition for LYR-220 for the segment of patients that have polyps. There are two companies pursuing the treatment of non-polyp patients.

There are a number of companies developing or marketing therapies for the treatment and management of CRS that may compete with our current product candidates, including many major pharmaceutical and biotechnology companies. These companies include, among others: Hoffman-La Roche, GlaxoSmithKline, AnaptysBio, Regeneron, Optinose, and Medtronic.

Most of our competitors, including many of those listed above, have substantially greater capital resources, robust product candidate pipelines, established presence in the market, and expertise in research and development, manufacturing, pre-clinical and clinical testing, obtaining regulatory approvals and reimbursement, and marketing approved products than we do. As a result, our competitors may achieve product commercialization or patent protection earlier than we can. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These competitors also compete with us in recruiting and retaining qualified clinical, regulatory, scientific, sales, marketing, and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient, or are less expensive than any products that we may develop or that would render any products that we may develop obsolete or noncompetitive.

The successful commercialization of our product candidates will depend in part on the extent to which governmental authorities and health insurers establish coverage, adequate reimbursement levels, and pricing policies. Failure to obtain or maintain coverage and adequate reimbursement for our product candidates, if approved, could limit our ability to market those products and decrease our ability to generate revenue.

The availability of coverage and adequacy of reimbursement by governmental healthcare programs such as Medicare and Medicaid, private health insurers, and other third-party payors are essential for most patients to be able to afford medical services and pharmaceutical products such as our product candidates, assuming FDA approval. Our ability to achieve acceptable levels of coverage and reimbursement for our products or procedures using our products by governmental authorities, private health insurers, and other organizations will have an effect on our ability to successfully commercialize our product candidates. Obtaining coverage and adequate reimbursement for our products may be particularly difficult because of the higher prices often associated with drugs administered under the supervision of a physician. Separate reimbursement for the product itself or the treatment or procedure in which our product is used may not be available. A decision by a third-party payor not to cover or separately reimburse for our products or procedures using our products could reduce physician utilization of our products once approved. Assuming there is coverage for our product candidates or procedures using our product candidates by a third-party payor, the resulting reimbursement payment rates may not be adequate or may require co-payments that patients find unacceptably high. Patients are unlikely to use our product candidates unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our product candidates. Similarly, our product candidates are physician-administered treatments and as such, separate reimbursement for the product itself may or may not be available. Instead, the hospital or administering physician may be reimbursed only for providing the treatment or procedure in which our product is used. To the extent separate coverage and reimbursement should become available for LYR-210, we anticipate that it will be sold to physicians on a “buy and bill” basis. Buy and bill

products must be purchased by healthcare providers before they can be administered to patients. Healthcare providers subsequently must seek reimbursement for the product from the applicable third-party payor, such as Medicare or a health insurance company. Healthcare providers may be reluctant to administer our product candidates, if approved, because they would have to fund the purchase of the product and then seek reimbursement, which may be lower than their purchase price, or because they do not want the additional administrative burden required to obtain reimbursement for the product.

Further, the status of reimbursement codes for any of our product candidates, if approved, could also affect reimbursement. J-Codes and Q-Codes are reimbursement codes maintained by the Centers for Medicare and Medicaid Services, or CMS, that are a component of the Healthcare Common Procedure Coding System and are typically used to report injectable drugs that ordinarily cannot be self-administered. We currently do not have a specific J-Code or Q-Code for any of our product candidates. If our product candidates are approved, we may apply for one but cannot guarantee that a J-Code or Q-Code will be granted. To the extent separate coverage or reimbursement is available for any product candidate, if approved, and a specific J-Code or Q-Code is not available, physicians would need to use a non-specific miscellaneous J-Code to bill third-party payors for these physician-administered drugs. Because miscellaneous J-Codes may be used for a wide variety of products, health plans may have more difficulty determining the actual product used and billed for the patient. These claims must often be submitted with additional information and manually processed, which can delay claims processing times as well as increase the likelihood for claim denials and claim errors. We cannot be sure that coverage and reimbursement in the United States, the EU, or elsewhere will be available for our product candidates or any product that we may develop, and any reimbursement that may become available may not be adequate or may be decreased or eliminated in the future.

Third-party payors increasingly are challenging prices charged for pharmaceutical products and services, and many third-party payors may refuse to provide coverage and reimbursement for particular drugs and biologics when an equivalent generic drug, biosimilar, or a less expensive therapy is available. It is possible that a third-party payor may consider our product candidates as substitutable and only offer to reimburse patients for the less expensive product. Even if we show improved efficacy or improved convenience of administration with our product candidates, pricing of existing third-party therapeutics may limit the amount we will be able to charge for our product candidates. These payors may deny or revoke the reimbursement status of a given product or establish prices for new or existing marketed products at levels that are too low to enable us to realize an appropriate return on our investment in our product candidates. If reimbursement is not available or is available only at limited levels, we may not be able to successfully commercialize our product candidates, and may not be able to obtain a satisfactory financial return on our product candidates.

There is significant uncertainty related to the insurance coverage and reimbursement of newly-approved products. In the United States, third-party payors, including private and governmental payors, such as the Medicare and Medicaid programs, play an important role in determining the extent to which new drugs and biologics will be covered. The Medicare and Medicaid programs increasingly are used as models in the United States for how private payors and other governmental payors develop their coverage and reimbursement policies for drugs and biologics. Some third-party payors may require pre-approval of coverage for new or innovative drug therapies before they will reimburse healthcare providers who use such therapies. We cannot predict at this time what third-party payors will decide with respect to the coverage and reimbursement for our product candidates.

No uniform policy for coverage and reimbursement for products exists among third-party payors in the United States. Therefore, coverage and reimbursement for products can differ significantly from payor to payor. As a result, the coverage determination process is often a time-consuming and costly process that will require us to provide scientific and clinical support for the use of our product candidates to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance. Furthermore, rules and regulations regarding reimbursement change frequently, in some cases on short notice, and we believe that changes in these rules and regulations are likely.

Outside the United States, international operations are generally subject to extensive governmental price controls and other market regulations, and we believe the increasing emphasis on cost-containment initiatives in the EU and other jurisdictions have and will continue to put pressure on the pricing and usage of our product candidates. In many countries, the prices of medical products are subject to varying price control mechanisms as part of national health systems. Other countries allow companies to fix their own prices for medical products, but monitor and control company profits. Additional foreign price controls or other changes in pricing regulation could restrict the amount that we are able to charge for our product candidates. Accordingly, in markets outside the United States, the reimbursement for our product candidates may be reduced compared with the United States and may be insufficient to generate commercially-reasonable revenue and profits.

Moreover, increasing efforts by governmental and third-party payors in the United States and abroad to cap or reduce healthcare costs may cause such organizations to limit both coverage and the level of reimbursement for newly approved products and, as a result, they may not cover or provide adequate payment for our product candidates. We expect to experience pricing pressures in connection with the sale of our product candidates due to the trend toward managed healthcare, the increasing influence of health maintenance organizations, and additional legislative changes. The downward pressure on healthcare costs in general, particularly prescription drugs and biologics and surgical procedures and other treatments, has become intense. As a result, increasingly high barriers are being erected to the entry of new products.

Our clinical studies were designed to demonstrate the safety and efficacy of LYR-210 based on FDA requirements and may not be seen as compelling to physicians or patients.

Our success depends on the medical community's acceptance of LYR-210, if approved, as a treatment for CRS patients. LYR-210 was previously studied in an open-label, Phase 1 clinical trial with 20 patients in New Zealand and Australia, which achieved its primary endpoint of safety at week 4. In the Phase 1 trial, we also observed that patients generally experienced significant and rapid, clinically meaningful and durable improvement in SNOT-22 scores. Significant reduction in SNOT-22 scores was observed at week 1, and this reduction persisted through week 25, which was the end of the trial. In our Phase 2 LANTERN clinical trial, we reported positive top-line results but failed to achieve the primary endpoint. Although not statistically significant at week 4 (the primary endpoint), at the 7,500 µg dose, LYR-210 achieved statistically significant improvement in 4CSS in favor of the treatment arm as measured by the change from baseline at weeks 16, 20, and 24. Furthermore, at the 7,500 µg dose, LYR-210 achieved statistically significant improvement in SNOT-22 score in favor of the treatment arm at weeks 8, 16, 20, and 24. Even if the results of these clinical trials suggest a favorable safety and efficacy profile, the study designs and results, and the designs and results of future clinical trials we conduct, may not be viewed as compelling to our physician customers or patients. If physicians do not find our data compelling, even if LYR-210 receives marketing approval they may choose not to use our products or limit their use. We cannot assure you that any data that we or others generate, including from any pivotal Phase 3 clinical study we may pursue for LYR-210, will be consistent with that observed in the Phase 1 clinical trial of LYR-210 and Phase 2 LANTERN clinical trial, nor that results will be maintained beyond the time points studied. We also cannot assure you that any data that may be collected will be compelling to the medical community because the data may not be clinically meaningful and may not demonstrate that LYR-210 is an attractive procedure when compared against data from alternative treatments.

Even if either LYR-210 or LYR-220 receives marketing approval, it may fail to achieve market acceptance by physicians, patients, third-party payors, or others in the medical community necessary for commercial success.

If either LYR-210 or LYR-220 receives marketing approval, it may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors, and others in the medical community. If it does not achieve an adequate level of acceptance, we may not generate significant product revenues or become profitable. The degree of market acceptance of LYR-210 or LYR-220, if approved for commercial sale, will depend on a number of factors, including but not limited to:

- perceptions by members of the healthcare community, including physicians, about the safety and effectiveness of our technology;
- the perception by members of the healthcare community, including physicians, or patients that the process of administering LYR-210 or LYR-220 is not unduly cumbersome;
- the efficacy and potential advantages compared to alternative treatments;
- effectiveness of sales and marketing efforts;
- the cost of treatment in relation to alternative treatments;
- our ability to offer our products for sale at competitive prices;
- the convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;

- the strength of marketing and distribution support;
- the timing of market introduction of competitive products;
- the availability of third-party coverage and adequate reimbursement;
- product labeling or product insert requirements of the FDA, the EMA, or other regulatory authorities, including any limitations or warnings contained in a product's approved labeling;
- the prevalence and severity of any side effects; and
- any restrictions on the use of our product together with other medications.

If our product candidates are approved, but do not achieve an adequate level of acceptance by physicians, healthcare payors, and patients, we may not generate sufficient revenue from these products, and we may not be able to achieve or sustain profitability. Our efforts to educate the medical community and third-party payors on the benefits of our product candidates may require significant resources and may never be successful. In addition, our ability to successfully commercialize our product candidates will depend on our ability to manufacture our products through third-party manufacturers, differentiate our products from competing products, and defend the intellectual property of our products.

Because we expect sales of LYR-210, if approved, to generate substantially all of our product revenues for a substantial period, the failure of this product to find market acceptance would harm our business and could require us to seek additional financing.

If physicians or patients are not willing to change current practices and adopt our office-based administration procedure for LYR-210 and LYR-220, our products may fail to gain market acceptance, and our business will be harmed.

Our product candidates, LYR-210 and LYR-220, are bioresorbable polymeric matrices designed to be administered in a brief, non-invasive, in-office procedure by an ENT physician under endoscopic visualization via a single-use applicator. While we believe ENT physicians will be able to administer our product candidates, if successfully developed and approved, in conjunction with an endoscopy procedure, thereby making the placement aligned with the existing care continuum for CRS patients and eliminating the need for ENT physicians to schedule separate surgical time, ENT physicians may not adopt our in-office procedure for a number of reasons, including:

- lack of significant experience with the placement procedure via a single-use applicator;
- lack of availability of adequate insurance coverage or reimbursement for the placement procedure;
- perceived inadequacy of evidence supporting clinical benefits or cost-effectiveness of the placement procedure and/or our products in general over existing alternatives;
- a perception that patients may be unable to tolerate the placement procedure in the physician office setting; and
- liability risks generally associated with the use of new products and procedures.

If ENT physicians do not adopt the placement procedure for any reason, including those listed above, our ability to grow our business would be impaired, even if LYR-210 and LYR-220 receive marketing approval.

We believe recommendations and support of our products by notable ENT physicians could influence market acceptance and adoption. If we do not receive support from influential ENT physicians, our ability to achieve broad market acceptance for our products may be impaired.

In addition, if patient receptivity toward treatment in an ENT physician office setting becomes less favorable in the future, this shift could negatively impact market acceptance of our products. Any negative change due to patient receptivity could also be compounded by patients reporting to physicians or other patients through word-of-mouth or social media.

Additionally, while it is currently more cost-effective to the healthcare system for providers to perform the placement procedure in an ENT physician's office than endoscopic sinus surgery in an operating room, healthcare economics are subject to change. If the use of our products were to cease being more cost-effective than endoscopic sinus surgery due to changes in reimbursement economics, our products may fail to gain market acceptance, our future growth would be limited, and our business may be adversely affected.

If we are unable to establish sales, marketing, and distribution capabilities either on our own or in collaboration with third parties, we may not be successful in commercializing LYR-210 or LYR-220, if approved, and we may not be able to generate any revenue.

We do not have any infrastructure for the sales, marketing, or distribution of our products, and the cost of establishing and maintaining such an organization may exceed the cost-effectiveness of doing so.

We expect to build our own focused sales, distribution, and marketing infrastructure to market LYR-210 and LYR-220 in the United States, if approved. There are significant expenses and risks involved with establishing our own sales, marketing, and distribution capabilities, including our ability to hire, retain, and appropriately incentivize qualified individuals, generate sufficient sales leads, provide adequate training to sales and marketing personnel, and effectively manage a geographically dispersed sales and marketing team. Any failure or delay in the development of our internal sales, marketing, and distribution capabilities could delay any product launch, which would adversely impact the commercialization of LYR-210. Additionally, if the commercial launch of LYR-210 or LYR-220 for which we recruit a sales force and establish marketing capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily incurred these commercialization expenses. This may be costly, and our investment would be lost if we cannot retain or reposition our sales and marketing personnel.

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

- our inability to recruit and retain adequate numbers of effective sales and marketing personnel;
- the inability of sales personnel to obtain access to physicians or persuade adequate numbers of physicians to prescribe any future products;
- our inability to equip medical and sales personnel with effective materials, including medical and sales literature to help them educate physicians and other healthcare providers regarding applicable diseases and our future products;
- the lack of complementary products to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines;
- our inability to develop or obtain sufficient operational functions to support our commercial activities; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization.

We do not anticipate having the resources in the foreseeable future to allocate to the sales and marketing of LYR-210, LYR-220, or any future product candidates in markets outside of the United States. Therefore, our future sales in these markets will largely depend on our ability to enter into and maintain collaborative relationships for such capabilities, the collaborator's strategic interest in the product, and such collaborator's ability to successfully market and sell the product. We intend to selectively pursue collaborative arrangements regarding the sale and marketing of LYR-210, if approved, for certain markets outside of the United States; however, we cannot assure that we will be able to establish or maintain such collaborative arrangements, or if able to do so, that they will have effective sales forces.

If we are unable to build our own sales force or negotiate a collaborative relationship for the commercialization of LYR-210 or LYR-220, we may be forced to delay the potential commercialization of LYR-210 or LYR-220 or reduce the scope of our sales or marketing activities for LYR-210 or LYR-220. If we elect to increase our expenditures to fund commercialization activities ourselves, we will need to obtain additional capital, which may not be available to us on acceptable terms, or at all. We could enter into arrangements with collaborative partners at an earlier stage than otherwise would be ideal and we may be required to relinquish rights to LYR-210 or LYR-220 or otherwise agree to terms unfavorable to us, any of which may have an adverse effect on our business, operating results and prospects.

If we are unable to establish adequate sales, marketing, and distribution capabilities, either on our own or in collaboration with third parties, we will not be successful in commercializing LYR-210 or LYR-220 and may not become profitable and may incur significant additional losses. 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.

Our future growth may depend, in part, on our ability to penetrate foreign markets, where we would be subject to additional regulatory burdens and other risks and uncertainties.

Our future profitability may depend, in part, on our ability to commercialize our product candidates in foreign markets for which we may rely on collaboration with third parties. We are evaluating the opportunities for the development and commercialization of our product candidates in foreign markets. We are not permitted to market or promote any of our product candidates before we receive regulatory approval from the applicable regulatory authority in that foreign market, and we may never receive such regulatory approval for any of our product candidates. To obtain separate regulatory approvals in other countries we may be required to comply with numerous and varying regulatory requirements of such countries regarding the safety and efficacy of our product candidates and governing, among other things, clinical trials and commercial sales, pricing, and distribution of our product candidates, and we cannot predict success in these jurisdictions. If we obtain approval of our product candidates and ultimately commercialize our product candidates in foreign markets, we would be subject to additional risks and uncertainties, including:

- our customers' ability to obtain reimbursement for our product candidates in foreign markets;
- our inability to directly control commercial activities if we are relying on third parties;
- the burden of complying with complex and changing foreign regulatory, tax, accounting, and legal requirements;
- different medical practices and customs in foreign countries affecting acceptance in the marketplace;
- import or export licensing requirements;
- longer accounts receivable collection times;
- longer lead times for shipping;
- language barriers for technical training and the need for language translations;
- reduced protection of intellectual property rights in some foreign countries;
- the existence of additional potentially relevant third-party intellectual property rights;
- foreign currency exchange rate fluctuations; and
- the interpretation of contractual provisions governed by foreign laws in the event of a contract dispute.

Foreign sales of our product candidates could also be adversely affected by the imposition of governmental controls, political and economic instability, trade restrictions, and changes in tariffs.

In some countries, particularly the countries in Europe, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a drug. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our product candidate to other available therapies. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business could be harmed, possibly materially.

The sizes of the patient populations that our product candidates are intended to treat have not been established with precision. If the market opportunities for our product candidates are smaller than we estimate, or if any approval that we obtain is based on a narrower definition of the patient population than we anticipate, our revenue and ability to achieve profitability may be materially adversely affected.

The precise incidence and prevalence of the conditions we aim to address with our programs is unknown and cannot be precisely determined. Our projections of both the number of people who have these diseases, as well as the subset of people with these diseases who have the potential to benefit from treatment with our product candidates, are based on beliefs and estimates. These estimates have been derived from a variety of sources, including the scientific literature, surveys of clinics, patient foundations, or market research, and may prove to be incorrect. Further, new information may change the estimated incidence or prevalence of these diseases, and the incidence or prevalence of these diseases is subject to change.

The total addressable market across all of our product candidates will ultimately depend upon, among other things, the indications and conditions of use for which the product candidates are approved and may be marketed, acceptance by the medical community, and patient access, drug pricing, and reimbursement. The sizes of the patient populations that our product candidates are intended to treat in the United States and other major markets and elsewhere may turn out to be smaller than expected, patients may not be otherwise amenable to treatment with our product candidates, or new patients may become increasingly difficult to identify or gain access to, all of which would adversely affect our results of operations and our business. Further, even if we obtain significant market share for our product candidates, we may never achieve profitability despite obtaining such significant market share.

If we cannot compete for market share against other drug companies, we may not achieve sufficient product revenues and our business will suffer.

If our product candidates receive FDA approval, they will compete with a number of existing and future drugs and therapies developed, manufactured, and marketed by other companies. Existing or future competing products may provide greater therapeutic convenience or clinical or other benefits for a specific indication than our products, or may offer comparable performance at a lower cost. If our products fail to capture and maintain market share, we may not achieve sufficient product revenues and our business will suffer.

We will compete against fully integrated pharmaceutical companies and smaller companies that are collaborating with larger pharmaceutical companies, academic institutions, government agencies, and other public and private research organizations. Many of these competitors may have compounds already approved or in development in the therapeutic categories that we are targeting with our current and future product candidates. In addition, many of these competitors, either alone or together with their collaborative partners, may operate larger research and development programs or have substantially greater financial resources than we do, as well as greater experience in:

- developing product candidates;
- undertaking pre-clinical testing and clinical trials;
- obtaining NDA approval by the FDA and comparable foreign regulatory approvals of product candidates;
- formulating and manufacturing products; and
- launching, marketing, and selling products.

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

If either LYR-210 or LYR-220 is approved for commercialization, we intend to selectively partner with third parties to market it in certain jurisdictions outside the United States. We expect that we will be subject to additional risks related to international pharmaceutical operations, including:

- different regulatory requirements for drug approvals and rules governing drug commercialization in foreign countries;
- reduced protection for intellectual property rights;
- foreign reimbursement, pricing, and insurance regimes;
- potential noncompliance with the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act 2010, and similar anti-bribery and anticorruption laws in other jurisdictions; and
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad.

We have no prior experience in these areas. In addition, there are complex regulatory, tax, labor, and other legal requirements imposed by both the European Union and many of the individual countries in Europe with which we will need to comply. Many U.S.-based biotechnology companies have found the process of marketing their own products in Europe to be very challenging.

Certain legal and political risks are also inherent in foreign operations. For example, it may be more difficult for us to enforce our agreements or collect receivables through foreign legal systems. There is a risk that foreign governments may nationalize private enterprises in certain countries where we may operate. In certain countries or regions, terrorist activities and the response to such activities may threaten our operations more than in the United States. Social and cultural norms in certain countries may not support compliance with our corporate policies including those that require compliance with substantive laws and regulations. Also, changes in general economic and political conditions in countries where we may operate are a risk to our financial performance and future growth. Additionally, the need to identify financially and commercially strong partners for commercialization outside the United States who will comply with the high manufacturing and legal and regulatory compliance standards we require is a risk to our financial performance. As we operate our business globally, our success will depend, in part, on our ability to anticipate and effectively manage these and other related risks. There can be no assurance that the consequences of these and other factors relating to our international operations will not have an adverse effect on our business, financial condition or results of operations.

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

The use of our product candidates, including LYR-210 and LYR-220, in clinical trials and the sale of any products for which we obtain marketing approval exposes us to the risk of product liability claims. For example, complications arising from the placement procedure for LYR-210 or LYR-220, or from the degradation or dislodgment of the LYR-210 or LYR-220 polymeric matrix within the sinuses after placement, or from foreign growth occurring in the sinus after placement, could give rise to product liability claims against us. 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. On occasion, large judgments have been awarded in class action lawsuits based on products that had unanticipated adverse effects. If we cannot successfully defend against product liability claims, we could incur substantial liability and costs, which may not be covered by insurance. In addition, regardless of merit or eventual outcome, product liability claims may result in:

- impairment of our business reputation and significant negative media attention;
- withdrawal of participants from our clinical trials;
- significant costs to defend the related litigation and related litigation;

- distraction of management’s attention from our primary business;
- substantial monetary awards to patients or other claimants;
- inability to commercialize LYR-210 or LYR-220 or any other product candidate;
- product recalls, withdrawals or labeling, marketing, or promotional restrictions;
- decreased demand for LYR-210 or LYR-220 or any other product candidate, if approved for commercial sale; and
- loss of revenue.

Risks Related to Our Dependence on Third Parties

We currently intend to manufacture clinical materials in-house, but we may rely on third parties for the manufacture of materials for our research programs, pre-clinical studies, and clinical trials and we do not have long-term contracts with any of these parties. Any inability to scale up our internal capabilities, or our reliance on third parties increases the risk that we will not have sufficient quantities of such materials, product candidates, or any therapies that we may develop and commercialize, or that such supply will not be available to us at an acceptable cost, which could delay, prevent, or impair our development or commercialization efforts.

We have relied on third parties for the manufacture of our product candidates and related raw materials for future pre-clinical and clinical development, and may rely on third parties for commercial manufacture if any of our product candidates receive marketing approval. We purchase certain required materials for pre-clinical and clinical drug supply on a purchase order basis. In addition, we have engaged a third-party contract manufacturer to complete the manufacturing for the anticipated LYR-210 Phase 3 clinical trials. Certain of these manufacturers are critical to our production and the loss of these manufacturers to one of our competitors or otherwise, or an inability to obtain quantities at an acceptable cost or quality, could delay, prevent, or impair our ability to timely conduct pre-clinical studies or clinical trials, and would materially and adversely affect our development and commercialization efforts.

The facilities used by third-party manufacturers to manufacture our product candidates must be approved by the FDA pursuant to inspections that will be conducted after we submit an NDA to the FDA. We do not control the manufacturing process of, and are completely dependent on, third-party manufacturers for compliance with cGMP requirements for manufacture of drug products and other laws and regulations. If these third-party manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA or others, they will not be able to secure and/or maintain regulatory approval for their manufacturing facilities. Some of our contract manufacturers may not have produced a commercially-approved product and therefore may not have obtained the requisite FDA approvals to do so. In addition, we have no control over the ability of third-party manufacturers to maintain adequate quality control, quality assurance and qualified personnel. If the FDA or a comparable foreign regulatory authority does not approve these facilities for the manufacture of our product candidates or if it withdraws any such approval in the future, we may need to find alternative manufacturing facilities, which would significantly impact our ability to develop, obtain regulatory approval for, or market our product candidates, if approved.

The failure of our third-party manufacturers to comply with applicable regulations could result in sanctions being imposed on us, including clinical holds, fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, seizures or recalls of product candidates or products, operating restrictions, and criminal prosecutions, any of which could significantly and adversely affect supplies of our products. In addition, we may be unable to establish any agreements with third-party manufacturers or to do so on acceptable terms.

Even if we are able to establish agreements with third-party manufacturers, reliance on third-party manufacturers entails additional risks, including:

- failure of third-party manufacturers to comply with regulatory requirements and maintain quality assurance;
- breach of the manufacturing agreement by the third party;
- failure to manufacture our product according to our specifications;

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

Our product candidates and any products that we may develop may compete with other product candidates and products for access to manufacturing facilities. There are a limited number of manufacturers that operate under cGMP regulations and that might be capable of manufacturing for us. Any performance failure on the part of our existing or future manufacturers could delay clinical development or marketing approval, and any related remedial measures may be costly or time-consuming to implement. We do not currently have arrangements in place for redundant supply or a second source for all required raw materials used in the manufacture of our product candidates. The extent to which COVID-19 impacts our ability to procure sufficient supplies for the development of our products and product candidates will depend on the severity and duration of the spread of the virus, and the actions undertaken to contain COVID-19 or treat its effects and may cause delays. If our current third-party manufacturers cannot perform as agreed, we may be required to replace such manufacturers and we may be unable to replace them on a timely basis or at all. Our current and anticipated future dependence upon others for the manufacture of our product candidates or products may adversely affect our future profit margins and our ability to commercialize any products that receive marketing approval on a timely and competitive basis.

We rely on third parties to conduct our pre-clinical studies and clinical trials. Any failure by a third party to conduct the clinical trials according to GCPs and in a timely manner may delay or prevent our ability to seek or obtain regulatory approval for or commercialize our product candidates.

We are dependent on third parties to conduct our pre-clinical studies and clinical trials, including our planned and ongoing clinical trials for LYR-210, and we expect to rely on third parties to conduct future clinical trials and pre-clinical studies for our product candidates, including LYR-220. Specifically, we have used and relied on, and intend to continue to use and rely on, medical institutions, clinical investigators, CROs, and consultants to conduct our clinical trials in accordance with our clinical protocols and regulatory requirements. These CROs, investigators, and other third parties play a significant role in the conduct and timing of these trials and subsequent collection and analysis of data. While we have agreements governing the activities of our third-party contractors, we have limited influence over their actual performance. Nevertheless, we are responsible for ensuring that each of our clinical trials is conducted in accordance with the applicable protocol and legal, regulatory, and scientific standards, and our reliance on the CROs and other third parties does not relieve us of our regulatory responsibilities. We and our CROs are required to comply with GCP requirements, which are regulations and guidelines enforced by the FDA and comparable foreign regulatory authorities for all of our product candidates in clinical development. Regulatory authorities enforce these GCPs through periodic inspections of trial sponsors, principal investigators, and trial sites. If we or any of our CROs or trial sites fail to comply with applicable GCPs, the clinical data generated in our clinical trials may be deemed unreliable, and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our clinical trials complies with GCP regulations. In addition, our clinical trials must be conducted with product produced under cGMP regulations. Our failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process.

There is no guarantee that any such CROs, investigators, or other third parties will devote adequate time and resources to such trials or perform as contractually required. If any of these third parties fail to meet expected deadlines, adhere to our clinical protocols, or meet regulatory requirements, or otherwise performs in a substandard manner, our clinical trials may be extended, delayed, or terminated. In addition, many of the third parties with whom we contract 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 that could harm our competitive position. In addition, principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and may receive cash or equity compensation in connection with such services. If these relationships and any related compensation result in perceived or actual conflicts of interest, or the FDA concludes that the financial relationship may have affected the interpretation of the trial, the integrity of the data generated at the applicable clinical trial site may be questioned, and the utility of the clinical trial itself may be jeopardized, which could result in the delay or rejection of any NDA we submit to the FDA. Any such delay or rejection could prevent us from commercializing our product candidates.

If any of our relationships with these third-parties terminate, we may not be able to enter into arrangements with alternative third parties or do so on commercially reasonable terms. Switching or adding additional CROs, investigators, and other third parties involves additional cost and requires management time and focus. In addition, there is a natural transition period when a new CRO commences work. As a result, delays occur, which can materially impact our ability to meet our desired clinical development timelines. COVID-19 and government measures taken in response have also had a significant impact on our CROs, and we expect that they will face further disruption which may affect our ability to initiate and complete our pre-clinical studies and clinical trials. Though we carefully manage our relationships with our CROs, investigators, and other third parties, there can be no assurance that we will not encounter challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, financial condition, and prospects.

We may collaborate with third parties for the development and commercialization of LYR-210, LYR-220, and any of our future product candidates. We may not succeed in establishing and maintaining collaborative relationships, which may significantly limit our ability to develop and commercialize LYR-210, LYR-220, or our future product candidates successfully, if at all.

We may seek additional collaborative relationships for the development and commercialization of LYR-210, LYR-220, or any future product candidates. Failure to obtain a collaborative relationship for LYR-210, LYR-220, or any future product candidates may significantly impair the potential for these product candidates. We also may need to enter into collaborative relationships to provide funding to support our other research and development programs. The process of establishing and maintaining collaborative relationships is difficult, time-consuming, and involves significant uncertainty, such as:

- a collaboration partner may shift its priorities and resources away from our product candidates due to a change in business strategies, or a merger, acquisition, sale, or downsizing;
- a collaboration partner may seek to renegotiate or terminate their relationships with us due to unsatisfactory clinical results, manufacturing issues, a change in business strategy, a change of control, or other reasons;
- a collaboration partner may cease development in therapeutic areas which are the subject of our strategic collaboration;
- a collaboration partner may not devote sufficient capital or resources towards our product candidates;
- a collaboration partner may change the success criteria for a product candidate, thereby delaying or ceasing development of such 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 our product candidate;
- 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 terminate a strategic alliance;
- a dispute may arise between us and a partner concerning the research, development, or commercialization of a product candidate resulting in a delay in milestones, royalty payments, or termination of an alliance and possibly resulting in costly litigation or arbitration which may divert management attention and resources; and
- a partner may use our products or technology in such a way as to invite litigation from a third party.

If any collaborator fails to fulfill its responsibilities in a timely manner, or at all, our research, clinical development, manufacturing, or commercialization efforts related to that collaboration could be delayed or terminated, or it may be necessary for us to assume responsibility for expenses or activities that would otherwise have been the responsibility of our collaborator. If we are unable to establish and maintain collaborative relationships on acceptable terms or to successfully transition terminated collaborative agreements, we may have to delay or discontinue further development of one or more of our product candidates, undertake development and commercialization activities at our own expense, or find alternative sources of capital. Moreover, any collaborative partners we enter into agreements with in the future may shift their priorities and resources away from our product candidates or seek to renegotiate or terminate their relationships with us.

If we seek, but are not able to establish, collaborations, we may have to alter our development and commercialization plans.

Our product development programs and the potential commercialization of our product candidates will require substantial additional capital. We may decide to collaborate with pharmaceutical and biotechnology companies for the development and potential commercialization of our product candidates.

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

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

Data provided by collaborators and others upon which we rely that has not been independently verified could turn out to be false, misleading, or incomplete.

We rely on third-party vendors, such as CROs, scientists, and collaborators to provide us with significant data and other information related to our projects, pre-clinical studies, or clinical trials and our business. If such third parties provide inaccurate, misleading, or incomplete data, our business, prospects, and results of operations could be materially adversely affected.

We do not have multiple sources of supply for some of the components used in LYR-210 or LYR-220, nor long-term supply contracts, and certain of our suppliers are critical to our production. If we were to lose a supplier, it could have a material adverse effect on our ability to complete the development of LYR-210 or LYR-220. If we obtain regulatory approval for LYR-210 or LYR-220, we would need to expand the supply of their components in order to commercialize them.

We do not have multiple sources of supply for the components used in the manufacturing of LYR-210 or LYR-220. We also do not have long-term supply agreements with any of our component suppliers. We may not be able to establish additional sources of supply for our product candidates, or may be unable to do so on acceptable terms. Manufacturing suppliers are subject to cGMP quality and regulatory requirements covering manufacturing, testing, quality control, and record keeping relating to our product candidates and are subject to ongoing inspections by the regulatory agencies. Failure by any of our suppliers to comply with applicable regulations may result in long delays and interruptions in supply.

Manufacturing suppliers are also subject to local, state, and federal regulations and licensing requirements. Failure by any of our suppliers to comply with all applicable regulations and requirements may result in long delays and interruptions in supply.

The number of suppliers of the raw material components of our product candidates is limited. In the event it is necessary or desirable to acquire supplies from alternative suppliers, we might not be able to obtain them on commercially reasonable terms, if at all. It could also require significant time and expense to redesign our manufacturing processes to work with another company. Additionally, certain of our suppliers are critical to our production and the loss of these suppliers to one of our competitors or otherwise would materially and adversely affect our development and commercialization efforts.

As part of any marketing approval, regulatory authorities conduct inspections that must be successful prior to the approval of the product. Failure of manufacturing suppliers to successfully complete these regulatory inspections will result in delays. If supply from the approved supplier is interrupted, there could be a significant disruption in commercial supply. An alternative vendor would need to be qualified through an NDA amendment or 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.

If we are unable to obtain the supplies we need at a reasonable price or on a timely basis, it could have a material adverse effect on our ability to complete the development of LYR-210 or LYR-220 or, if we obtain regulatory approval for LYR-210 or LYR-220, to commercialize them.

We may enter into collaborations, in-licensing arrangements, joint ventures, strategic alliances, or partnerships with third-parties that may not result in the development of commercially viable products or the generation of significant future revenues.

In the ordinary course of our business, we may enter into collaborations, in-licensing arrangements, joint ventures, strategic alliances, partnerships, or other arrangements to develop new products and to pursue new markets. Proposing, negotiating, and implementing collaborations, in-licensing arrangements, joint ventures, strategic alliances, or partnerships may be a lengthy and complex process. Other companies, including those with substantially greater financial, marketing, sales, technology, or other business resources, may compete with us for these opportunities or arrangements. We may not identify, secure, or complete any such transactions or arrangements in a timely manner, on a cost-effective basis, on acceptable terms, or at all. We have limited institutional knowledge and experience with respect to these business development activities, and we may also not realize the anticipated benefits of any such transaction or arrangement. In particular, these collaborations may not result in the development of products that achieve commercial success or result in significant revenues and could be terminated prior to developing any products.

Additionally, we may not be in a position to exercise sole decision making authority regarding the transaction or arrangement, which could create the potential risk of creating impasses on decisions, and our future collaborators may have economic or business interests or goals that are, or that may become, inconsistent with our business interests or goals. It is possible that conflicts may arise with our collaborators, such as conflicts concerning the achievement of performance milestones, or the interpretation of significant terms under any agreement, such as those related to financial obligations or the ownership or control of intellectual property developed during the collaboration. If any conflicts arise with any current or future collaborators, they may act in their self-interest, which may be adverse to our best interest, and they may breach their obligations to us. In addition, we may have limited control over the amount and timing of resources that any current or future collaborators devote to our or their future products. Disputes between us and our collaborators may result in litigation or arbitration which would increase our expenses and divert the attention of our management. Further, these transactions and arrangements will be contractual in nature and will generally be terminable under the terms of the applicable agreements and, in such event, we may not continue to have rights to the products relating to such transaction or arrangement or may need to purchase such rights at a premium.

If we enter into in-bound intellectual property license agreements, we may not be able to fully protect the licensed intellectual property rights or maintain those licenses. Future licensors could retain the right to prosecute and defend the intellectual property rights licensed to us, in which case we would depend on the ability of our licensors to obtain, maintain, and enforce such licensed intellectual property. These licensors may determine not to pursue litigation against other companies or may pursue such litigation less aggressively than we would. If our licensors do not adequately protect such licensed intellectual property, competitors may be able to use such intellectual property and erode or negate any competitive advantage we may have, which could materially harm our business, negatively affect our position in the marketplace, limit our ability to commercialize our products and product candidates, and delay or render impossible our achievement of profitability. Further, entering into such license agreements could impose various diligence, commercialization, royalty, or other obligations on us. Future licensors may allege that we have breached our license agreement with them, and accordingly seek to terminate our license, which could adversely affect our competitive business position and harm our business prospects.

Risks Related to Our Intellectual Property

If we are unable to obtain, maintain, or adequately protect our intellectual property rights, 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 our intellectual property and prevent others from duplicating LYR-210, LYR-220, and any future product candidates.

The strength of patents in the biotechnology and pharmaceutical field involves complex legal, factual, and scientific questions and can be uncertain. It is possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. The patent applications that we own may fail to result in issued patents with claims that cover our product candidates in the United States or in other foreign countries. There is no assurance that all of the potentially relevant prior art relating to our patents and patent applications has been found, which can invalidate a patent or prevent a patent from issuing from a pending patent application. Even if patents do successfully issue and even if such patents cover our product candidates, third parties may challenge the inventorship, ownership, validity, enforceability, or scope of such patents, which may result in such patents being narrowed or invalidated, or being held unenforceable. Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property, provide exclusivity for our product candidates, or prevent others from designing around our claims. In addition, no assurances can be given that third parties will not create new products or methods that achieve similar results without infringing upon our patents. Any of these outcomes could impair our ability to prevent competition from third parties, which may have an adverse impact on our business.

If the patent applications we hold with respect to our programs or product candidates fail to issue, if their breadth or strength of protection is threatened, or if they fail to provide meaningful exclusivity for our product candidates, it could dissuade companies from collaborating with us to develop product candidates, and threaten our ability to commercialize future products. Several patent applications covering our product candidates have been filed recently. We cannot offer any assurances about which, if any, patents will issue, the breadth of any such patents, or whether any issued patents will be found invalid or unenforceable or will be threatened by third parties. Any successful opposition to these patents or any other patents owned by us could deprive us of rights necessary for the successful commercialization of any product candidates that we may develop.

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. 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, if third parties have filed such patent applications before enactment of the Leahy-Smith Act on March 16, 2013, an interference proceeding in the United States can be initiated by a third party to determine who was the first to invent any of the subject matter covered by the patent claims of our applications. In addition, patents have a limited lifespan. In the United States, the 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. Even if patents covering our product candidates are obtained, once the patent life has expired for the patent covering a product, we may be open to competition from generic competing products.

The issuance of a patent is not conclusive as to its inventorship, ownership, scope, validity, or enforceability, and our patents may be challenged in the courts or patent offices in the United States and abroad. In addition, the issuance of a patent does not give us the right to practice the patented invention. Third parties may have blocking patents that could prevent us from marketing our product candidate, if approved, or practicing our own patented technology. As a result, the issuance, scope, validity, enforceability, and commercial value of our patent rights are highly uncertain.

In addition to the protection afforded by patents, we rely on trade secret protection and confidentiality agreements to protect proprietary know-how that is either not patentable or that we elect not to patent, processes for which patents are difficult to enforce and any other elements of our product candidate discovery and development processes that involve proprietary know-how, information, or technology that is not covered by patents. 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. While we have confidence in these individuals, organizations, and systems, agreements or security measures may be breached, and we may not have adequate remedies for any breach. Once disclosed, we are likely to lose trade secret protection.

Although we require all of our employees and consultants to assign their inventions to us, to the extent that employees or consultants use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions. Further, although we require that all of our employees, consultants, collaborators, advisors, and any third parties who have access to our proprietary know-how, information, or technology enter into confidentiality agreements, we cannot provide any assurances 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 discover our trade secrets or develop substantially equivalent information and techniques. Any of these parties may breach these agreements and we may not have adequate remedies for any specific breach. Misappropriation or unauthorized disclosure of our trade secrets or other confidential proprietary information could impair our competitive position and may have a material adverse effect on our business. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive, and time-consuming, and the outcome is unpredictable. Additionally, if the steps taken to maintain our trade secrets or other confidential proprietary information are deemed inadequate, we may have insufficient recourse against third parties for misappropriating the trade secret or other confidential proprietary information.

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, or allegations of infringement, of the patents and other 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, interferences, oppositions, reexamination, and inter partes review proceedings before the United States Patent and Trademark Office, or USPTO, and corresponding foreign patent offices. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are pursuing development candidates. Many companies in intellectual property-dependent industries, including the biotechnology and pharmaceutical industries, have employed intellectual property litigation as a means to gain an advantage over their competitors. As the biotechnology and pharmaceutical industries expand and more patents are issued, and as we gain greater visibility and market exposure as a public company, the risk increases that our product candidates may be subject to claims of infringement of the patent rights of third parties. Some claimants may have substantially greater resources than we do and may be able to sustain the costs of complex intellectual property litigation to a greater degree and for longer periods of time than we could. In addition, patent holding companies that focus solely on extracting royalties and settlements by enforcing patent rights may target us.

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 composition of matter, drug delivery, methods of manufacture, or methods for treatment related to the use or manufacture of our product candidates. We cannot guarantee that our technologies, products, compositions, and their uses do not or will not infringe third party patent or other intellectual property rights. Because patent applications can take many years to issue, there may be currently pending patent applications which may later result in issued patents that our product candidates may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. Pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our product candidates or the use of our product candidates. After issuance, the scope of patent claims remains subject to construction as determined by an interpretation of the law, the written disclosure in a patent, and the patent's prosecution history. Our interpretation of the relevance or the scope of a patent or a pending application may be incorrect, which may negatively impact our ability to market our product candidates. If any third-party patents were held by a court of competent jurisdiction to cover the composition of matter of any of our product candidates, the manufacturing process of any of our product candidates, or the method of use for any of our product candidates, 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, which may not be available or may not be available on commercially reasonable terms, or until such patents expire.

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 and/or harm our reputation and financial results. Defense of these claims, regardless of their merit, could involve substantial litigation expense and could be a substantial diversion of management and 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, in the case of claims concerning registered trademarks, rename our product candidates, or obtain one or more licenses from third parties, which may require substantial time and monetary expenditure, and which might be impossible or technically infeasible. Furthermore, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us; alternatively or additionally it could include terms that impede or destroy our ability to compete successfully in the commercial marketplace.

We may be involved in lawsuits to protect or enforce our patents or other intellectual property, which could be expensive, time-consuming and unsuccessful.

Competitors may infringe our patents, trademarks, copyrights, or other intellectual property. It may be difficult to detect infringers who do not advertise the components that are used in their products. Moreover, it may be difficult or impossible to obtain evidence of infringement in a competitor's or potential competitor's product. To counter infringement or unauthorized use, we may be required to file infringement claims on a country-by-country basis, which can be expensive and time-consuming and divert the time and attention of our management and scientific personnel. There can be no assurance that we will have sufficient financial or other resources to file and pursue such infringement claims, which typically last for years before they are concluded. Any claims we assert against perceived infringers could also provoke these parties to assert counterclaims against us alleging that we infringe their patents, in addition to counterclaims asserting that our patents are invalid or unenforceable, or both.

In addition, in an infringement proceeding, a court may decide that a patent of ours is not valid, is unenforceable and/or is not infringed, or may construe the patent's claims narrowly or 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, interpreted narrowly, or held unenforceable, could put our patent applications at risk of not issuing, and could limit our ability to assert those patents against those parties or other competitors and curtail or preclude our ability to exclude third parties from making and selling similar or competitive products. Similarly, if we assert trademark infringement claims, a court may determine that the marks we have asserted are invalid or unenforceable, or that the party against whom we have asserted trademark infringement has superior rights to the marks in question. In this case, we could ultimately be forced to cease use of such trademarks, which could materially harm our business and negatively affect our position in the marketplace.

Even if we establish infringement, the court may decide not to grant an injunction against further infringing activity and instead award only monetary damages, which may or may not be an adequate remedy. 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.

Recent patent reform legislation has increased the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, and may diminish the value of patents in general.

As is the case with other biotechnology companies, our commercial success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biotechnology industry involves both technological and legal complexity and is therefore costly, time consuming, and inherently uncertain. Recent wide-ranging patent reform legislation in the United States, including the Leahy-Smith America Invents Act, or the Leahy-Smith Act, could increase those uncertainties and costs.

The Leahy-Smith Act includes a number of significant changes to U.S. patent law, including provisions that affect the way patent applications are prosecuted and may also affect patent litigation. Under The Leahy-Smith Act, the United States transitioned from a “first-to-invent” to a “first-to-file” system for deciding which party should be granted a patent when two or more patent applications are filed by different parties claiming the same invention. This will require us to be cognizant going forward of the time from invention to filing of a patent application and be diligent in filing patent applications, but circumstances could prevent us from promptly filing patent applications on our inventions. The Leahy-Smith Act also enlarged the scope of disclosures that qualify as prior art, and it expanded the scope of procedures that a third party may use to challenge a U.S. patent, including post grant review and inter partes review procedures. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in U.S. federal courts necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. The Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business and financial condition.

In addition, recent court rulings in cases such as *Association for Molecular Pathology v. Myriad Genetics, Inc.*, *BRCA1- & BRCA2-Based Hereditary Cancer Test Patent Litigation*, and *Promega Corp. v. Life Technologies Corp.* have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents once obtained. Depending on future actions by the U.S. Congress, the U.S. courts, the USPTO, and the relevant law-making bodies in other countries, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future.

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

We may employ individuals who were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we try to ensure that our employees, consultants, and independent contractors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or our employees, consultants, or independent contractors have inadvertently or otherwise used or disclosed intellectual property, including trade secrets or other proprietary information, of any of our employee’s former employers or other third parties. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel, or our ability to hire personnel, which, in any case of the foregoing, could adversely impact our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

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

The USPTO, European, and other patent agencies require compliance with a number of procedural, documentary, fee payment, and other similar provisions during the patent application process. Periodic maintenance fees, renewal fees, annuity fees, and various other governmental fees on patents and/or applications will be due to be paid to the USPTO and various governmental patent agencies outside of the United States in several stages over the lifetime of the patents and/or applications. We have systems in place to remind us to pay these fees, and we employ an outside firm and rely on our outside counsel to pay these fees due to non-U.S. patent agencies. The USPTO and various non-U.S. governmental patent agencies require compliance with a number of procedural, documentary, fee payment, and other similar provisions during the patent application process. We employ law firms and other professionals to help us comply, and in many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. However, there are situations in which non-compliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, our competitors might be able to enter the market, which could have a material adverse effect on our business.

Issued patents covering our product candidates could be found invalid or unenforceable if challenged in court.

If we initiated legal proceedings against a third party to enforce a patent covering one of our product candidates, the defendant could counterclaim that the patent covering our product candidate is invalid and/or unenforceable. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. Third parties may also raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation.

Such mechanisms include re-examination, post grant review, and equivalent proceedings in foreign jurisdictions (e.g., opposition proceedings). Such proceedings could result in revocation or amendment to our patents in such a way that they no longer cover our product candidates.

The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on one or more of our product candidates. Such a loss of patent protection could have a material adverse impact on our business. A defendant could also challenge our ownership of patents assigned to us. We cannot be certain that a third party would not challenge our rights to these patents and patent applications. Any legal proceeding or enforcement action can also be expensive and time-consuming.

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

The term of any individual patent depends on applicable law in the country where the patent is granted. In the United States, provided all maintenance fees are timely paid, a patent generally has a term of 20 years from its application filing date or earliest claimed non-provisional filing date. Extensions may be available under certain circumstances, but the life of a patent and, correspondingly, the protection it affords is limited. Given the amount of time required for the development, testing, and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. For patents that are eligible for extension of patent term, we expect to seek extensions of patent terms in the United States and, if available, in other countries. In the United States, the Drug Price Competition and Patent Term Restoration Act of 1984 permits a patent term extension of up to five years beyond the normal expiration of the patent, which is limited to the approved indication (or any additional indications approved during the period of extension). We might not be granted an extension because of, for example, failure to apply within applicable periods, failure to apply prior to the expiration of relevant patents or otherwise, or failure to satisfy any of the numerous applicable requirements. Moreover, the applicable authorities, including the FDA and the USPTO in the United States, and any equivalent regulatory authority in other countries, may not agree with our assessment of whether such extensions are available, and may refuse to grant extensions to our patents, or may grant more limited extensions than we request. If this occurs, our competitors may be able to obtain approval of competing products following our patent expiration by referencing our clinical and pre-clinical data and launch their product earlier than might otherwise be the case. If this were to occur, it could have a material adverse effect on our ability to generate revenue.

We may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting, and defending our intellectual property in all countries throughout the world could be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. Therefore, we may choose not to pursue or maintain protection for certain intellectual property in certain jurisdictions. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our products and our patents or other intellectual property rights may not be effective or sufficient to prevent such competitors from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets, and other intellectual property protection, particularly those relating to biotechnology products, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing, and could provoke third parties to assert claims against us. We may not prevail in any lawsuit that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license. In addition, many countries have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties (for example, the patent owner has failed to “work” the invention in that country, or the third party has patented improvements) or limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of the patent.

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

While we seek to protect the trademarks we use in the United States and in other countries, we may be unsuccessful in obtaining registrations and/or otherwise protecting these trademarks. If that were to happen, we may be prevented from using our names, brands, and trademarks unless we enter into appropriate royalty, license, or coexistence agreements, which may not be available or may not be available on commercially reasonable terms. Over the long term, if we are unable to establish name recognition based on our trademarks, trade names, service marks, and domain names, then we may not be able to compete effectively, resulting in a material adverse effect on our business. Our registered or unregistered trademarks or trade names may be challenged, infringed, diluted, or declared generic, or determined to be infringing on other marks. We rely on both registration and common law protection for our trademarks. We may not be able to protect our rights to these trademarks and trade names or may be forced to stop using these names, which we need to build name recognition among potential partners or customers in our markets of interest. At times, competitors may adopt trademarks and trade names similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our registered or unregistered trademarks. Over the long term, if we are unable to establish name recognition based on our trademarks, then we may not be able to compete effectively and our business may be adversely affected. During trademark registration proceedings, we may receive rejections. Although we would be given an opportunity to respond to those rejections, we may be unable to overcome such rejections. In addition, in the USPTO and in comparable agencies in many foreign jurisdictions, third parties are given an opportunity to oppose pending trademark applications and to seek to cancel registered trademarks. Opposition or cancellation proceedings may be filed against our trademarks, and our trademarks may not survive such proceedings. Effective trademark protection may not be available or may not be sought in every country in which our products are made available. Any name we propose to use for our products in the United States must be approved by the FDA, regardless of whether we have registered it, or applied to register it, as a trademark. The FDA typically conducts a review of proposed product names, including an evaluation of potential for confusion with other product names. If the FDA objects to any of our proposed product names, we may be required to expend significant additional resources in an effort to identify a usable substitute name that would qualify under applicable trademark laws, not infringe the existing rights of third parties, and be acceptable to the FDA. If we are unable to establish name

recognition based on our trademarks and trade names, we may not be able to compete effectively and our business may be adversely affected.

Our proprietary rights may not adequately protect our technologies and product candidates, and do not necessarily address all potential threats to our competitive advantage.

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

- others may be able to make products that are the same as or similar to our product candidates but that are not covered by the claims of the patents that we own;
- others, including inventors or developers of our patented technologies who may become involved with competitors, may independently develop similar technologies that function as alternatives or replacements for any of our technologies without infringing our intellectual property rights;
- we might not have been the first to conceive and reduce to practice the inventions covered by our patents or patent applications;
- we might not have been the first to file patent applications covering certain of our patents or patent applications;
- it is possible that our pending patent applications will not result in issued patents;
- it is possible that there are prior public disclosures that could invalidate our patents;
- our issued patents may not provide us with any commercially viable products or competitive advantage, or may be held invalid or unenforceable, as a result of legal challenges by our competitors;
- the Supreme Court of the United States, other U.S. federal courts, Congress, the USPTO, or similar foreign authorities may change the standards of patentability and any such changes could narrow or invalidate, or change the scope of, our or our collaboration partners' patents;
- patent terms may be inadequate to protect our competitive position on our product candidates for an adequate amount of time;
- our competitors might conduct research and development activities in countries where we do not have patent rights, or in countries where research and development safe harbor laws exist, and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- ownership, validity, or enforceability of our patents or patent applications may be challenged by third parties; and
- the patents of third parties or pending or future applications of third parties, if issued, may have an adverse effect on our business.

Risks Related to Employee Matters and Managing Growth

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

We expect to experience significant growth in the number of our employees and the scope of our operations, particularly in the areas of product candidate development, regulatory affairs, and sales, marketing, and distribution over the next few years. As of December 31, 2022, we had 58 full-time employees. To manage our growth activities, we must continue to implement and improve our managerial, operational, and financial systems, expand our facilities, and continue to recruit and train additional qualified personnel. Due to our limited financial resources and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. As we expand our organization, we may have difficulty identifying, hiring, and integrating new personnel. 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 product candidates. 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 our product candidates and compete effectively will depend, in part, on our ability to effectively manage any future growth.

Many of the biotechnology and pharmaceutical companies that we compete against for qualified personnel and consultants have greater financial and other resources, different risk profiles, and a longer history in the industry than we do. If we are unable to continue to attract and retain high-quality personnel and consultants, the rate and success at which we can discover and develop product candidates and operate our business will be limited.

If we lose key management or scientific personnel, cannot recruit qualified employees, directors, officers, or other significant personnel, or experience increases in our compensation costs, our business may materially suffer.

We are highly dependent on our management and directors, including our chief executive officer, Maria Palasis, Ph.D., among others. Due to the specialized knowledge each of our officers and key employees possesses with respect to our product candidates and our operations, the loss of service of any of our officers or directors could delay or prevent the successful enrollment and completion of our clinical trials. We do not carry key person life insurance on our officers or directors. Although we have formal employment agreements with our executive officers, these agreements do not prevent them from terminating their employment with us at any time.

In addition, our future success and growth will depend in part on the continued service of our directors, employees, and management personnel and our ability to identify, hire, and retain additional personnel. If we lose one or more of our executive officers or key employees, our ability to implement our business strategy successfully could be seriously harmed. Furthermore, replacing executive officers and key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to develop, gain regulatory approval of, and commercialize product candidates successfully. Competition to hire from this limited pool is intense, and we may be unable to hire, train, retain, or motivate these additional key personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be engaged by entities other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us. If we are unable to continue to attract and retain high quality personnel, our ability to develop and commercialize product candidates will be limited.

Many of our employees have become or will soon become vested in a substantial amount of our common stock or a number of common stock options. Our employees may be more likely to leave us if the shares they own have significantly appreciated in value relative to the original purchase prices of the shares, or if the exercise prices of the options that they hold are significantly below the market price of our common stock. Our future success also depends on our ability to continue to attract and retain additional executive officers and other key employees.

We may engage in acquisitions or strategic partnerships that could disrupt our business, cause dilution to our stockholders, reduce our financial resources, cause us to incur debt or assume contingent liabilities, and subject us to other risks.

In the future, we may enter into transactions to acquire other businesses, products, or technologies or enter into strategic partnerships, including licensing. If we do identify suitable acquisition or partnership candidates, we may not be able to make such acquisitions or partnerships on favorable terms, or at all. Any acquisitions or partnerships we make may not strengthen our competitive position, and these transactions may be viewed negatively by customers or investors. We may decide to incur debt in connection with an acquisition or issue our common stock or other equity securities to the stockholders of the acquired company, which would reduce the percentage ownership of our existing stockholders. We could incur losses resulting from undiscovered liabilities of the acquired business or partnership that are not covered by the indemnification we may obtain from the seller or our partner. In addition, we may not be able to successfully integrate any acquired personnel, technologies, and operations into our existing business in an effective, timely, and non-disruptive manner. Acquisitions or partnerships may also divert management attention from day-to-day responsibilities, lead to a loss of key personnel, increase our expenses, and reduce our cash available for operations and other uses. We cannot predict the number, timing, or size of future acquisitions or partnerships or the effect that any such transactions might have on our operating results.

Adverse developments affecting the financial services industry, such as actual events or concerns involving liquidity, defaults or non-performance by financial institutions or transactional counterparties, could adversely affect the Company's current and projected business operations and its financial condition and results of operations.

Actual events involving limited liquidity, defaults, non-performance or other adverse developments that affect financial institutions, transactional counterparties or other companies in the financial services industry or the financial services industry generally, or concerns or rumors about any events of these kinds or other similar risks, have in the past and may in the future lead to market-wide liquidity problems. The Company maintains the majority of its cash and cash equivalents in accounts with major U.S. institutions, and our deposits at certain of these institutions exceed insured limits. Market conditions can impact the viability of these institutions. In the event of failure of any of the financial institutions where we maintain our cash and cash equivalents, there can be no assurance that we would be able to access uninsured funds in a timely manner or at all. Any inability to access or delay in accessing these funds could adversely affect our current and projected business operations and our financial condition and results of operations.

We or the third parties upon whom we depend may be adversely affected by natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Natural disasters could severely disrupt our operations and have a material adverse effect on our business, results of operations, financial condition, and prospects. If a natural disaster, power outage, or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as the manufacturing facilities on which we rely, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place may prove inadequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which could have a material adverse effect on our business. For example, following Hurricane Maria, shortages in production and delays in a number of medical supplies produced in Puerto Rico resulted, and any similar interruption due to a natural disaster affecting us or any of our third-party manufacturers could materially delay our operations.

The global pandemic caused by COVID-19 has disrupted and may continue to adversely impact our business and operations, including our clinical trials.

The COVID-19 global pandemic and government measures taken in response have also had a significant impact, both direct and indirect, on businesses and commerce, as worker shortages have occurred; supply chains have been disrupted;

facilities and production have been suspended; and demand for certain goods and services, such as medical services and supplies, has spiked, while demand for other goods and services, such as travel, has fallen.

In light of developments relating to the COVID-19 pandemic and the focus of healthcare providers and hospitals on fighting the virus, and consistent with the FDA's updated industry guidance for conducting clinical trials issued on March 18, 2020, we discontinued enrollment at 67 patients in our Phase 2 LANTERN clinical trial and we did not open any sites in the United States. Ultimately, LYR-210 did not achieve the primary endpoint in our Phase 2 LANTERN clinical trial, we believe due primarily to the discontinuation of enrollment related to the COVID-19 pandemic. As a result of the decrease in the number of patients enrolled from planned (99 evaluable) to actually enrolled (67), a greater magnitude of change from baseline in 4CSS at week 4 and/or a smaller standard deviation associated with the change from baseline was required in order to achieve statistical significance for the primary endpoint at week 4.

Moreover, we were unable to enroll patients in our Phase 2 LANTERN clinical trial in the United States from whom we intended to collect certain additional pharmacokinetic data, and as a result, we initiated a separate characterization study in September 2020 as a follow-on to our Phase 2 LANTERN clinical trial in order to collect such data. We are also experiencing delays enrolling patients in our Phase 2 BEACON clinical trial at our sites in Australia as a result of restrictions imposed in response to the COVID-19 pandemic.

Additionally, certain third parties, including manufacturers, medical institutions, clinical investigators, CROs, and consultants with whom we conduct business are similarly adjusting their operations and assessing their capacity in light of COVID-19. If these third parties continue to experience shutdowns or business disruptions, our ability to conduct our business in the manner and on the timelines presently planned could be materially and negatively impacted. For example, as a result of COVID-19, there could be delays in the manufacturing supply chain for mometasone furoate, which could delay or otherwise impact the manufacturing of LYR-210. It is also likely that the disproportionate impact of COVID-19 on hospitals and clinical sites will have an impact on recruitment and retention for our planned clinical trials.

To the extent COVID-19 adversely affects our business, financial condition, and results of operations, it may also have the effect of heightening many of the other risks described in this "Risk Factors" section.

Litigation against us could be costly and time-consuming to defend and could result in additional liabilities.

We may from time to time be subject to legal proceedings and claims that arise in the ordinary course of business or otherwise, such as claims brought by our customers in connection with commercial disputes and employment claims made by our current or former employees. Claims may also be asserted by or on behalf of a variety of other parties, including government agencies, patients, or vendors of our customers, or stockholders.

Any litigation involving us may result in substantial costs, operationally restrict our business, and may divert management's attention and resources, which may seriously harm our business, overall financial condition, and results of operations. Insurance may not cover existing or future claims, be sufficient to fully compensate us for one or more of such claims, or continue to be available on terms acceptable to us. A claim brought against us that is uninsured or underinsured could result in unanticipated costs, thereby adversely impacting our results of operations and resulting in a reduction in the trading price of our stock.

Risks Related to Our Common Stock

The market price of our common stock may be volatile and fluctuate substantially, which could result in substantial losses for purchasers of our common stock.

Our stock price may be volatile. The stock market in general and the market for smaller biotechnology companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, you may not be able to sell your common stock at or above the purchase price. The market price for our common stock may be influenced by many factors, including:

- the success of competitive products or technologies;
- actual or expected changes in our growth rate relative to our competitors;
- results of clinical trials of our product candidates or those of our competitors;

- developments related to our existing or any future collaborations;
- regulatory actions with respect to our product candidates or our competitors' products and product candidates;
- regulatory or legal developments in the United States and other countries;
- development of new product candidates that may address our markets and make our product candidates less attractive;
- changes in physician, hospital, or healthcare provider practices that may make our product candidates less useful;
- announcements by us, our partners, or our competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations, or capital commitments;
- developments or disputes concerning patent applications, issued patents, or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our product candidates or clinical development programs;
- failure to meet or exceed financial estimates and projections of the investment community or that we provide to the public;
- the results of our efforts to discover, develop, acquire, or in-license additional product candidates or products;
- actual or expected changes in estimates as to financial results, development timelines, or recommendations by securities analysts;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- short selling activities;
- general economic, industry, and market conditions; and
- the other factors described in this "Risk Factors" section and elsewhere in this Annual Report on Form 10-K.

In addition, the trading prices for common stock of other biotechnology companies have been highly volatile as a result of the COVID-19 pandemic. The extent to which COVID-19 may impact our business, pre-clinical studies, and clinical trials will depend on future developments, which are highly uncertain and cannot be predicted with confidence.

Our current executive officers, directors, and principal stockholders, if they choose to act together, will continue to have the ability to control or significantly influence all matters submitted to stockholders for approval.

Based on the number of shares of common stock outstanding as of March 1, 2023, our current executive officers, directors, and stockholders who own more than 10% of our outstanding common stock and their respective affiliates will, in the aggregate, hold shares representing approximately 58.8% of our outstanding voting stock. As a result, if these stockholders choose to act together, they would be able to control or significantly influence all matters submitted to our stockholders for approval, as well as our management and affairs. For example, these persons, if they choose to act together, would control or significantly influence the election of directors, the composition of our management, and approval of any merger, consolidation, or sale of all or substantially all of our assets.

A significant portion of our total outstanding shares are eligible to be sold into the market in the near future, which could cause the market price of our common stock to drop significantly, even if our business is doing well.

Sales of a substantial number of shares of our common stock in the public market, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. Holders of approximately 5.4 million shares of our common stock have rights, subject to specified conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders, until such shares can otherwise be sold without restriction under Rule 144 or until the rights terminate pursuant to the terms of the ninth amended and restated investor rights agreement between us and such holders. We have also registered all shares of common stock that we may issue under our equity compensation plans, which can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates.

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

We are an “emerging growth company,” as defined in the JOBS Act, and may remain an emerging growth company until December 31, 2025. However, if certain events occur prior to such date, including if we become a “large accelerated filer,” our annual gross revenues exceed \$1.235 billion, or we issue more than \$1.0 billion of non-convertible debt in any three-year period, we will cease to be an emerging growth company prior to such date. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include:

- being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced “Management’s Discussion and Analysis of Financial Condition and Results of Operations” disclosure in this Annual Report on Form 10-K;
- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor’s report providing additional information about the audit and the financial statements;
- reduced disclosure obligations regarding executive compensation; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We have taken advantage of reduced reporting burdens in this Annual Report on Form 10-K. In particular, we have not included all of the executive compensation related information that would be required if we were not an emerging growth company. We cannot predict whether investors will find our common stock less attractive if we rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be reduced or more volatile. In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of these accounting standards until they would otherwise apply to private companies.

If securities or industry analysts do not publish research or reports about our business, or if they issue an adverse or misleading opinion regarding our stock, our stock price and trading volume could decline, even if our business is doing well.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts publish about us or our business. If any of the analysts who cover us issue an adverse or misleading opinion regarding us, our business model, our intellectual property, or our stock performance, or if our target pre-clinical studies or clinical trials and operating results fail to meet the expectations of analysts, our stock price would likely decline. If one or more of these analysts ceases coverage of us or fails to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

We are a “smaller reporting company” and the reduced disclosure requirements applicable to smaller reporting companies may make our common stock less attractive to investors.

We are considered a “smaller reporting company.” We are therefore entitled to rely on certain reduced disclosure requirements, and have provided only two years of audited financial statements in this Annual Report on Form 10-K. We are also exempt from the requirement to obtain an external audit on the effectiveness of internal control over financial reporting provided in Section 404(b) of the Sarbanes-Oxley Act. These exemptions and reduced disclosures in our SEC filings due to our status as a smaller reporting company may make it harder for investors to analyze our results of operations and financial prospects. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock prices may be more volatile.

Provisions in our restated certificate of incorporation and amended and restated bylaws and under Delaware law could make an acquisition of our Company, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our restated certificate of incorporation and our amended and restated bylaws may discourage, delay, or prevent a merger, acquisition, or other change in control of our Company that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, because our board of directors is responsible for appointing the members of our management team, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Among other things, these provisions include those establishing:

- a classified board of directors with three-year staggered terms, which may delay the ability of stockholders to change the membership of a majority of our board of directors;
- no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- the exclusive right of our board of directors to elect a director to fill a vacancy created by the expansion of the board of directors or the resignation, death, or removal of a director, which prevents stockholders from filling vacancies on our board of directors;
- the ability of our board of directors to authorize the issuance of shares of preferred stock and to determine the terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquirer;
- the ability of our board of directors to alter our bylaws without obtaining stockholder approval;
- the required approval of the holders of at least two-thirds of the shares entitled to vote at an election of directors to adopt, amend, or repeal our bylaws or repeal the provisions of our restated certificate of incorporation regarding the election and removal of directors;
- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- the requirement that a special meeting of stockholders may be called only by the chairman of the board of directors, the chief executive officer, the president, or the board of directors, which may delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors; and
- advance notice procedures that stockholders must comply with in order to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders’ meeting, which may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer’s own slate of directors or otherwise attempting to obtain control of us.

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

Our restated certificate of incorporation designates specific courts as the exclusive forum for certain litigation that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us.

Our restated certificate of incorporation specifies that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for most legal actions involving claims brought against us by stockholders; provided that, the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Securities Act, the Exchange Act, the rules and regulations thereunder, or any other claim for which the federal courts have exclusive jurisdiction; and provided further that, if and only if the Court of Chancery of the State of Delaware dismisses any such action for lack of subject matter jurisdiction, such action may be brought in another state or federal court sitting in the State of Delaware. Our restated certificate of incorporation further provides that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States of America shall, to the fullest extent permitted by law, be the sole and exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and to have consented to the provisions of our restated certificate of incorporation described above.

We believe these provisions benefit us by providing increased consistency in the application of Delaware law by chancellors particularly experienced in resolving corporate disputes and in the application of the Securities Act by federal judges, as applicable, efficient administration of cases on a more expedited schedule relative to other forums, and protection against the burdens of multi-forum litigation. However, the provision may have the effect of discouraging lawsuits against our directors, officers, employees, and agents as it may limit any stockholder's ability to bring a claim in a judicial forum that such stockholder finds favorable for disputes with us or our directors, officers, employees, or agents. The enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that, in connection with any applicable action brought against us, a court could find the choice of forum provisions contained in our restated certificate of incorporation to be inapplicable or unenforceable in such action. If a court were to find the choice of forum provision contained in our restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our business, financial condition, or results of operations.

General Risk Factors

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

As a public company, we have incurred significant legal, accounting, and other expenses that we did not incur as a private company. The Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of The Nasdaq Global Market, and other applicable securities rules and regulations impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations have increased our legal and financial compliance costs and made some activities more time-consuming and costly. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance, which in turn could make it more difficult for us to attract and retain qualified members of our board of directors.

We are evaluating these rules and regulations, and cannot predict or estimate the amount of additional costs we may incur or the timing of such costs. These rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, we are required to furnish a report by our management on our internal control over financial reporting. However, while we remain an emerging growth company, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we are engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, engage outside consultants, adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing whether such controls are functioning as documented, and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that we will not be able to conclude, within the prescribed timeframe or at all, that our internal control over financial reporting is effective as required by Section 404. We may discover significant deficiencies or additional material weaknesses, which we may not successfully remediate on a timely basis or at all. Any failure to remediate any significant deficiencies or material weaknesses identified by us or to implement required new or improved controls, or difficulties encountered in their implementation, could cause us to fail to meet our reporting obligations or result in material misstatements in our financial statements. The identification of one or more material weaknesses, including the one described in this Annual Report on Form 10-K, could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

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

On March 20, 2012, we declared and paid a special cash dividend of \$0.2630467 per share of our common stock, par value \$0.001, which we refer to as the Special Dividend, which totaled approximately \$42,115 in the aggregate. Other than the Special Dividend, we have never declared or paid any cash dividends on our common shares. 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. As a result, capital appreciation, if any, of our common shares would be your sole source of gain on an investment in our common shares for the foreseeable future.

We could be subject to securities class action litigation.

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 biotechnology companies have experienced significant stock price volatility in recent years. If we face such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

Our ability to use our net operating losses and research and development credits to offset future taxable income may be subject to certain limitations.

As of December 31, 2022, we had net operating loss carryforwards, or NOLs, of \$112.1 million for federal income tax purposes and \$25.5 million for state income tax purposes, which may be available to offset our future taxable income, if any, and begin to expire at various dates through 2037. As of December 31, 2022, we also had federal and state research and development credit carryforwards of \$1.8 million, which begin to expire at various dates through 2037. In general, under Sections 382 and 383 of the Internal Revenue Code of 1986, or IRC, as amended, or the Code, a corporation that undergoes an "ownership change," generally defined as a greater than 50% change by value in its equity ownership over a three-year period, is subject to limitations on its ability to utilize its pre-change NOLs and its research and development credit carryforwards to offset future taxable income. The Company has performed an IRC 382 study during the year which resulted in identifying three separate ownership changes that occurred on March 31, 2006, January 17, 2020, and April 13, 2022. For these reasons, in the event we experience a change of control, we may not be able to utilize a material portion of the NOLs or research and development credit carryforwards even if we attain profitability.

The impact of the Tax Cuts and Jobs Act on our financial results is not entirely clear and could differ materially from the financial statements provided herein.

On December 22, 2017, the United States enacted the Tax Cuts and Jobs Act, or TCJA, that significantly reformed the Code. The TCJA, among other things, contained significant changes to corporate taxation, including reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%; limitation of the tax deduction for interest expense; limitation of the deduction for NOLs and elimination of NOL carrybacks, in each case, for losses arising in taxable years beginning after December 31, 2017 (though any such tax losses may be carried forward indefinitely); and modifying or repealing many business deductions and credits. The financial statements contained herein reflect the effects of the TCJA based on current guidance. However, there remain uncertainties and ambiguities in the application of certain provisions of the TCJA, and, as a result, we made certain judgments and assumptions in the interpretation thereof. The U.S. Treasury Department and the Internal Revenue Service may issue further guidance on how the provisions of the TCJA will be applied or otherwise administered that differs from our current interpretation. In addition, the TCJA could be subject to potential amendments and technical corrections, any of which could materially lessen or increase certain adverse impacts of the legislation on us.

Unstable global political or economic conditions may have serious adverse consequences on our business, financial condition and share price.

The global economy, including credit and financial markets, has recently experienced extreme volatility and disruptions, including severely diminished liquidity and credit availability, rising interest and inflation rates, declines in consumer confidence, declines in economic growth, increases in unemployment rates and uncertainty about economic stability. There can be no assurance that further deterioration in credit and financial markets and confidence in economic conditions will not occur. If the equity and credit markets continue to deteriorate, or the United States enters a recession, it may make any necessary debt or equity financing more difficult to obtain in a timely manner or on favorable terms, more costly or more dilutive. In addition, the war between Russia and Ukraine could disrupt or otherwise adversely impact our operations and those of third parties upon which we rely. Related sanctions, export controls or other actions have and may in the future be initiated by nations including the U.S., the EU or Russia (e.g., potential cyberattacks, disruption of energy flows, etc.), which could adversely affect our business and/or our supply chain, our CROs, CMOs and other third parties with which we conduct business. Any of the foregoing could harm our business, results of operations and price of our common stock may be adversely affected.

The increasing focus on environmental sustainability and social initiatives could increase our costs, harm our reputation and adversely impact our financial results.

There has been increasing public focus by investors, environmental activists, the media and governmental and nongovernmental organizations on a variety of environmental, social and other sustainability matters. We may experience pressure to make commitments relating to sustainability matters that affect us, including the design and implementation of specific risk mitigation strategic initiatives relating to sustainability. If we are not effective in addressing environmental, social and other sustainability matters affecting our business, or setting and meeting relevant sustainability goals, our reputation and financial results may suffer. In addition, we may experience increased costs in order to execute upon our sustainability goals and measure achievement of those goals, which could have an adverse impact on our business and financial condition.

Moreover, this emphasis on environmental, social and other sustainability matters has resulted and may result in the adoption of new laws and regulations, including new reporting requirements. If we fail to comply with new laws, regulations or reporting requirements, our reputation and business could be adversely impacted.

Item 1B. Unresolved Staff Comments.

Not applicable.

Item 2. Properties.

We occupy office and laboratory space in Watertown, Massachusetts under a lease agreement, as amended, that terminates on April 30, 2024. We do not own any real property. We believe that our facilities are sufficient to meet our current needs and that suitable additional space will be available as and when needed.

In May 2022, we executed a new lease for laboratory and office space. This lease will commence when we obtain possession of the underlying asset, which is expected to occur in the fourth quarter of 2023, following completion of construction to prepare the premises for our intended use.

Item 3. Legal Proceedings.

From time to time, we may become involved in litigation relating to claims arising from the ordinary course of business. Our management believes that there are currently no claims or actions pending against us, the ultimate disposition of which could have a material adverse effect on our results of operations or financial condition.

On March 17, 2023, we filed a complaint in the Court of Chancery of the State of Delaware against a former contract manufacturer alleging breach of contract. We alleged in our complaint that our former contract manufacturer breached our Master Clinical Supply Agreement (“MCSA”) by misrepresenting their ability to produce LYR-210 in accordance with our specifications and with a robust quality system in place, and failed to return certain customer materials and equipment as required under the MCSA. Our complaint seeks monetary damages and the return of equipment and materials that we own. On March 28, 2023, the contract manufacturer filed a motion to remove the case from the Chancery Court to the United States District Court for the District of Delaware.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

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

Market Information

Our common stock is listed on The Nasdaq Global Market under the symbol "LYRA."

Holder

As of March 1, 2023, there were approximately 70 holders of record of our common stock. However, because many of our outstanding shares are held in accounts with brokers and other institutions, we believe we have more beneficial owners.

Dividend Policy

We currently intend to retain all available funds and future earnings, if any, for the operation and expansion of our business and do not anticipate declaring or paying any dividends in the foreseeable future. Any future determination related to our dividend policy will be made at the discretion of our board of directors after considering our financial condition, results of operations, capital requirements, contractual requirements, business prospects, and other factors the board of directors deems relevant, and subject to the restrictions contained in any future financing instruments.

On March 20, 2012, we declared and paid a special cash dividend of \$0.2630467 per share of our common stock, par value \$0.001, which we refer to as the Special Dividend, which totaled approximately \$42,115 in the aggregate. Other than the Special Dividend, we have not declared or paid any cash dividends on our capital stock.

Recent Sales of Unregistered Securities; Purchases of Equity Securities by the Issuer or Affiliated Purchaser

In the quarter ended December 31, 2022, we did not repurchase any of our equity securities or issue any securities that were not registered under the Securities Act.

Use of Proceeds from Initial Public Offering of Common Stock

On May 5, 2020, we completed the sale of 4,025,000 shares of our common stock, including 525,000 shares pursuant to the full exercise of the underwriters' option to purchase additional shares, at a public offering price of \$16.00 per share. The offer and sale of the shares in our initial public offering, or IPO, was registered under the Securities Act pursuant to a registration statement on Form S-1 (File No. 333-236962), which was declared effective by the SEC on April 30, 2020 (the "Registration Statement").

There has been no material change in the planned use of proceeds from our IPO as described in our final prospectus for our IPO dated April 30, 2020 and filed pursuant to Rule 424(b)(4) under the Securities Act on May 1, 2020. We invested the funds received in cash equivalents and other short-term investments in accordance with our investment policy.

Item 6. [Reserved]

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and the related notes appearing elsewhere in this Annual Report on Form 10-K. Some of the information contained in this discussion and analysis or set forth elsewhere in this Annual Report on Form 10-K, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties.

Our actual results and timing of certain events may differ materially from the results discussed, projected, anticipated, or indicated in any forward-looking statements. We caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition, and liquidity, and the development of the industry in which we operate may differ materially from the forward-looking statements contained in this Annual Report on Form 10-K. In addition, even if our results of operations, financial condition, and liquidity, and the development of the industry in which we operate are consistent with the forward-looking statements contained in this Annual Report on Form 10-K, they may not be predictive of results or developments in future periods.

The following information and any forward-looking statements should be considered in light of factors discussed elsewhere in this Annual Report on Form 10-K, including those risks identified under Part I, Item 1A. Risk Factors.

We caution readers not to place undue reliance on any forward-looking statements made by us, which speak only as of the date they are made. We disclaim any obligation, except as specifically required by law and the rules of the SEC, to publicly update or revise any such statements to reflect any change in our expectations or in events, conditions, or circumstances on which any such statements may be based, or that may affect the likelihood that actual results will differ from those set forth in the forward-looking statements.

Overview

We are a clinical-stage biotechnology company focused on the development and commercialization of therapies for the localized treatment of patients with chronic rhinosinusitis, or CRS. Our proprietary technology is designed to consistently deliver medicines directly to the affected tissue for sustained periods with a single administration. Our product candidates, LYR-210 and LYR-220, are bioresorbable polymeric matrices designed to be administered in a brief, non-invasive, in-office procedure and intended to deliver up to six months of continuous anti-inflammatory drug therapy to the sinonasal passages for the treatment of CRS. The therapeutic embedded within LYR-210 and LYR-220 is mometasone furoate, or MF, which is the active ingredient in various U.S. Food and Drug Administration, or FDA, approved drugs and has a well-established efficacy and safety profile. CRS is an inflammatory disease of the paranasal sinuses which leads to debilitating symptoms and significant morbidities and affects approximately 14 million people in the United States.

LYR-210

LYR-210 is designed to treat CRS patients both with and without nasal polyps who have failed previous medical management and have not undergone endoscopic sinus surgery. A pivotal Phase 3 program of LYR-210, called the ENLIGHTEN program, consists of two pivotal trials and is currently ongoing.

LYR-220

We are developing our second pipeline product candidate, LYR-220, for use in CRS patients who continue to require treatment to manage CRS symptoms despite having had sinus surgery. LYR-220 is also designed to utilize MF, and employs a larger matrix designed for patients whose nasal cavity is enlarged due to sinus surgery. A Phase 2 clinical trial of LYR-220, called BEACON, is currently ongoing.

Our Technology

Our innovative and proprietary drug delivery technology is designed to locally and continuously deliver small molecule drugs to the affected tissue over a sustained period of time from a single administration. The technology is comprised of three interrelated components:

- a biocompatible mesh scaffold, which is designed to maximize surface area for drug release while maintaining underlying tissue function;
- an engineered elastomeric matrix, a polymeric matrix composed of polymers having elastic characteristics, which has advanced physical properties resulting in implants with “shape memory” that dynamically adapt to nasal anatomy; and
- a versatile polymer-drug complex, which can be customized for the treatment of various chronic diseases treatable with ENT delivery to achieve the desired drug dose and drug elution rate.

We were incorporated as a Delaware corporation on November 21, 2005, and our headquarters is located in Watertown, Massachusetts. Our operations to date have been limited to organizing and staffing our Company, business planning, raising capital, developing our technology, building our intellectual property portfolio and conducting research and development activities for our product candidates. We do not have any products approved for sale and have not generated any revenue from product sales.

On May 5, 2020, we completed our IPO in which we issued and sold 4,025,000 shares of our common stock (including shares issued upon the underwriters’ exercise in full of their option to purchase additional shares of our common stock) at a public offering price of \$16.00 per share, par value \$0.001, for aggregate gross proceeds of \$64.4 million. We received approximately \$57.3 million in net proceeds after deducting underwriting discounts and commissions and offering expenses paid by us. The shares began trading on The Nasdaq Global Market on May 1, 2020. Upon completion of our IPO, all of our outstanding shares of convertible preferred stock converted into 8,335,248 shares of our common stock, par value \$0.001.

From inception through December 31, 2022, we have raised an aggregate of \$350.4 million to fund our operations, of which \$162.1 million were gross proceeds from sales of our redeemable convertible preferred stock, \$96.3 million were net proceeds from our April 2022 Financing (as defined below); \$57.3 million were net proceeds from our initial public offering, \$16.8 million were gross proceeds from government contracts and \$17.0 million were gross proceeds from our license and collaboration agreement.

We have incurred significant net operating losses in every year since inception and expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. Our net losses may fluctuate significantly from quarter to quarter and year to year and could be substantial. Our net losses were \$55.3 million and \$43.5 million for the years ended December 31, 2022 and 2021, respectively. As of December 31, 2022, we had an accumulated deficit of \$248.7 million. We anticipate that our expenses will increase significantly as we:

- conduct additional clinical trials of our most advanced product candidate, LYR-210, including two ongoing pivotal Phase 3 clinical trials of LYR-210;
- conduct a Phase 2 clinical trial of LYR-220;
- continue to discover and develop additional product candidates;
- establish manufacturing and supply chain capacity sufficient to provide commercial quantities of any product candidates for which we may obtain marketing approval;
- seek regulatory and marketing approvals for product candidates that successfully complete clinical trials, if any;

- establish a sales, marketing, and distribution infrastructure to commercialize any products for which we may obtain regulatory approval in geographies in which we plan to commercialize our products ourselves;
- maintain, expand and protect our intellectual property portfolio;
- hire additional staff, including clinical, scientific, technical, regulatory, operational, financial, commercial and support personnel, to execute our business plan; and
- add clinical, scientific, operational, financial and management information systems and personnel to support our product development and potential future commercialization efforts, and to enable us to operate as a public company.

We do not expect to generate revenue from product sales unless and until we successfully complete clinical development and obtain regulatory approval for a product candidate. Additionally, we may engage third party contract manufacturers to manufacture our products in the future. We do not yet have a sales organization. If we obtain regulatory approval for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing, and distribution. Furthermore, we will continue to incur additional costs associated with operating as a public company. As a result, we will need substantial additional funding to support our continuing operations and pursue our growth strategy. Until such time as we can generate significant revenue from product sales, if ever, we expect to fund our operations through public or private equity or debt financings or other sources, including strategic collaborations and licensing arrangements. We may, however, be unable to raise additional funds or enter into such other arrangements when needed on favorable terms or at all. Our failure to raise capital or enter into such other arrangements as and when needed would have a negative impact on our financial condition and our ability to develop our current product candidates, or any additional product candidates, if developed.

Because of the numerous risks and uncertainties associated with therapeutics product development, we are unable to accurately predict the timing or amount of increased expenses or when or if we will be able to achieve or maintain profitability. Even if we are able to generate revenue from product sales, we may not become profitable. If we fail to become profitable or are unable to sustain profitability on a continuing basis, then we may be unable to continue our operations at planned levels and be forced to reduce or terminate our operations.

As of December 31, 2022, we had cash and cash equivalents totaling \$32.6 million and short-term investments of \$65.3 million. We believe that our existing cash, cash equivalents, and short-term investments will enable us to fund our operating expenses and capital expenditure requirements into mid-2024. We have based these estimates on assumptions that may prove to be imprecise or incorrect, and we may use our available capital resources sooner than we currently expect. See “—Liquidity and Capital Resources.” Because of the numerous risks and uncertainties associated with the development of our product candidates and any future product candidates and technology, and because the extent to which we may enter into collaborations with third parties for development of any of our product candidates is unknown, we are unable to estimate the amounts of increased capital outlays and operating expenses associated with completing the research and development of our product candidates.

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

Financial Operations Overview

Revenue

To date, we have not generated any revenue from product sales and do not expect to generate any revenue from the sale of products in the foreseeable future. To date, we have recognized \$1.6 million of collaboration revenue from our LianBio License Agreement.

If our development efforts for our product candidates are successful and result in regulatory approval and successful commercialization efforts, or additional collaboration agreements, we may generate revenue in the future from product sales, payments from additional collaboration or license agreements that we may enter into with third parties, or any combination thereof. We cannot predict if, when, or to what extent we will generate revenue from the commercialization and sale of our product candidates. We may never succeed in obtaining regulatory approval for any of our product candidates.

We expect that our revenue for the next several years will be derived primarily from our collaboration agreement with LianBio as well as any additional collaborations that we may enter into in the future. We cannot provide assurance as to the timing of future milestone or royalty payments or that we will receive any of these payments at all.

Collaboration Agreement

On September 26, 2022, we entered into an amended LianBio License Agreement with LianBio to develop and commercialize LYR-210 in Greater China (mainland China, Hong Kong, Taiwan, and Macau), South Korea, Singapore and Thailand. Under the terms of the LianBio License Agreement, we received an upfront payment of \$12.0 million and are eligible to receive up to \$135.0 million in future payments based upon the achievement of specified development, regulatory and commercialization milestones. Upon commercialization on a region-by-region basis, we will be entitled to receive low double-digit royalties based on net sales of LYR-210 in the licensed territories. LianBio will be responsible for the clinical development and commercialization of LYR-210 in the licensed territories, and we will retain all rights to LYR-210 in all other geographies. As part of the LianBio License Agreement, LianBio will also have the first right to obtain development and commercial rights in the licensed territories to our LYR-220 product candidate.

We assessed this arrangement in accordance with ASC 606 and concluded that the contract counterparty, LianBio, is a customer. At the commencement of the arrangement, we identified the following material promises: (1) license to develop and commercialize LYR-210, (2) manufacturing activities related to the clinical supply of LYR-210, (3) a non-exclusive license to manufacture LYR-210 and obligation to transfer manufacturing technology in the case of a supply failure, and (4) the Company's performance of the development activities related to the global Phase 3 clinical trial. We determined that the license to develop and commercialize LYR-210, the manufacturing activities related to the clinical supply of LYR-210, and the non-exclusive license to manufacture LYR-210 and obligation to transfer manufacturing technology in the case of a supply failure represent a single performance obligation because of the specialized nature of the LYR-210 manufacturing process whereby the license cannot be separated from the manufacturing activities related to the supply of LYR-210 and the right to manufacture LYR-210 is only available if there is a supply failure. For the purposes of ASC 606, we determined there were two distinct performance obligations: (1) the license to develop and commercialize LYR-210, manufacturing activities related to the clinical supply of LYR-210, and the non-exclusive license to manufacture LYR-210 and obligation to transfer manufacturing technology in the case of a supply failure, and (2) the Company's performance of the development activities related to the global Phase 3 clinical trial.

Under the LianBio License Agreement, in order to evaluate the transaction price for purposes of ASC 606, we determined that the upfront payment of \$12.0 million and the reimbursable cost of the clinical supply of LYR-210 constitute the entirety of the consideration to be included in the transaction price as of the outset of the arrangement, which was allocated to the two performance obligations. The potential milestone payments that we are eligible to receive were excluded from the transaction price, as all milestone amounts were fully constrained based on the probability of achievement.

Additionally, we determined that LianBio's right of first refusal to obtain development and commercial rights in the licensed territories to LYR-220 is an option as any agreement would be negotiated at arm's length and as a result does not provide a material right to LianBio and as such, is not considered a performance obligation.

We will recognize the revenue associated with the license to develop and commercialize LYR-210, manufacturing activities related to the clinical supply of LYR-210, and the non-exclusive license to manufacture LYR-210 and obligation to transfer manufacturing technology in the case of a supply failure combined performance obligation as the clinical supply of LYR-210 is delivered. We recognize revenue associated with the development activities related to the global Phase 3 clinical trial performance obligation as the development activities are performed using an input method, according to the costs incurred as to the development activities related to the global Phase 3 clinical trial and the costs expected to be incurred in the future to satisfy the performance obligation. The transfer of control occurs over this time period and, in management's judgment, is the best measure of progress towards satisfying the performance obligation. The amounts received that have not yet been recognized as revenue are deferred as a contract liability on our consolidated balance sheet and will be recognized as the clinical supply of LYR-210 is delivered and over the remaining time it takes to conduct the global Phase 3 clinical trial, respectively.

Operating Expenses

Our operating expenses since inception have consisted solely of research and development costs and general and administrative costs.

Research and Development Expenses

Research and development expenses consist primarily of costs incurred for our research activities, including the development of and pursuit of regulatory approval of our most advanced product candidate, LYR-210, for the treatment of CRS, which include:

- employee-related expenses, including salaries, benefits, and stock-based compensation expense for personnel engaged in research and development functions;
- expenses incurred in connection with the preclinical and clinical development of our product candidates, including under agreements with CROs, investigative sites, and consultants;
- costs of manufacturing our product candidates for use in our clinical trials, including fees paid to CMOs as well as other manufacturers that provide components of our product candidates for use in our potential future clinical trials;
- consulting and professional fees related to research and development activities;
- costs related to compliance with clinical regulatory requirements; and
- facility costs and other allocated expenses, which include expenses for rent and maintenance of our facility, utilities, depreciation, and other supplies; and
- Impairment costs related to long-lived assets.

We expense research and development costs as incurred. We recognize costs for certain development activities, such as clinical trials, based on an evaluation of the progress to completion of specific tasks using data such as clinical site activations, patient enrollment, or information provided to us by our vendors and our clinical investigative sites. Payments for these activities are based on the terms of the individual agreements, which may differ from the pattern of costs incurred, and may be reflected in our consolidated financial statements as prepaid or accrued research and development expenses.

Our research and development expenses consist primarily of costs such as employee compensation, consulting fees, fees paid to CMOs and CRO expenses in connection with our preclinical and clinical development activities. We typically use our employee and infrastructure resources across our development programs and we do not allocate personnel costs and other internal costs to specific product candidates or development programs with the exception of the costs to manufacture our product candidates.

Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect that our research and development expenses will continue to increase for the foreseeable future as we initiate additional

clinical trials, including two clinical trials for LYR-210 and one clinical trial for LYR-220, scale our manufacturing processes, and continue to discover and develop additional product candidates.

The successful development of LYR-210, LYR-220, and other potential future product candidates is highly uncertain. Accordingly, at this time, we cannot reasonably estimate or know the nature, timing, and costs of the efforts that will be necessary to complete the development of these product candidates. We are also unable to predict when, if ever, we will generate revenue and material net cash inflows from the commercialization and sale of any of our product candidates for which we may obtain marketing approval. We may never succeed in achieving regulatory approval for any of our product candidates. The duration, costs, and timing of preclinical studies, clinical trials, and development of our product candidates will depend on a variety of factors, including:

- successful completion of clinical trials with safety, tolerability, and efficacy profiles for LYR-210, LYR-220, and any potential future product candidates that are satisfactory to the FDA or any comparable foreign regulatory authority;
- approval of an IND for LYR-220 and any potential future product candidate to commence planned or future clinical trials in the United States or foreign countries;
- significant and changing government regulation and regulatory guidance;
- timing and receipt of marketing approvals from applicable regulatory authorities;
- making arrangements with CMOs for third-party clinical and commercial manufacturing to obtain sufficient supply of our product candidates;
- obtaining and maintaining patent and other intellectual property protection and regulatory exclusivity for our product candidates;
- commercializing the product candidates, if and when approved, whether alone or in collaboration with others;
- competition with other therapies; and
- business interruptions resulting from COVID-19.

A change in the outcome of any of these variables with respect to the development, manufacture, or commercialization enabling activities of any of our product candidates would significantly change the costs, timing, and viability associated with the development of that product candidate. For example, if the FDA or another regulatory authority were to require us to conduct clinical trials beyond those that we anticipate will be required for the completion of clinical development of a product candidate, or if we experience significant delays in our clinical trials due to patient enrollment or other reasons, we may be required to expend significant additional financial resources and time on the completion of clinical development.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries and other related costs, including stock-based compensation, for personnel in executive, finance, and administrative functions. General and administrative expenses also include direct and allocated facility-related costs as well as professional fees for legal, patent, consulting, investor, and public relations, accounting, auditing, tax services, and insurance costs.

We expect that our general and administrative expenses will increase in the future to support continued research and development activities and potential commercialization of our product candidates. These increases will likely include increased costs related to the hiring of additional personnel and fees to outside consultants, attorneys, and accountants, among other expenses. Additionally, we will continue to incur increased expenses associated with being a public company, including costs of additional personnel, accounting, audit, legal, regulatory, and tax-related services associated with maintaining compliance with exchange listing and SEC requirements, director and officer insurance costs, and investor and public relations costs.

Interest Income

Interest income consists of interest income earned on our cash and cash equivalents and short-term investments.

Critical Accounting Estimates

Our management's discussion and analysis of financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States, or GAAP. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses, the disclosure of contingent assets and liabilities in our consolidated financial statements during the reporting periods and estimates used to assess our ability to continue as a going concern. These items are monitored and analyzed by us for changes in facts and circumstances, and material changes in these estimates could occur in the future. We base our estimates on historical experience, known trends and events, and various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Changes in estimates are reflected in reported results for the period in which they become known. Actual results may differ materially from these estimates under different assumptions or conditions.

While our significant accounting policies are described in more detail in the notes to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K, we believe the following accounting policies used in the preparation of our consolidated financial statements require the most significant judgments and estimates.

Going Concern Evaluation and Presentation

Based on our current operating plan, we believe that our current cash, cash equivalents, and short-term investments will be sufficient to enable us to fund our operating expenses and capital expenditure requirements into mid-2024. Significant assumptions exist surrounding the use of our capital resources which could give rise to the use of available capital resources sooner than we currently expect. Changing circumstances could cause us to consume capital significantly faster than we currently anticipate, and we may need to spend more than currently expected because of circumstances beyond our control. Because the length of time and activities associated with successful development of LYR-210 and LYR-220 is highly uncertain, we are unable to estimate the actual funds we will require for development, approval, and any approved marketing and commercialization activities.

Revenue Recognition

Under ASC Topic 606, *Revenue from Contracts with Customers* ("ASC 606"), an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration that the entity expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that an entity determines are within the scope of ASC 606, the entity performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price, including variable consideration, if any; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. We only apply the five-step model to contracts when it is probable that the entity will collect the consideration to which it is entitled in exchange for the goods or services it transfers to the customer.

Once a contract is determined to be within the scope of ASC 606, we assess the goods or services promised within each contract and determines those that are performance obligations. Arrangements that include rights to additional goods or services that are exercisable at a customer's discretion are generally considered options. We assess if these options provide a material right to the customer and if so, they are considered performance obligations. The identification of material rights requires judgments related to the determination of the value of the underlying good or service relative to the option exercise price. The exercise of a material right is accounted for as a contract modification for accounting purposes.

We assess whether each promised good or service is distinct for the purpose of identifying the performance obligations in the contract. This assessment involves subjective determinations and requires management to make judgments about the individual promised goods or services and whether such are separable from the other aspects of the contractual relationship. Promised goods and services are considered distinct provided that: (i) the customer can benefit from the good or service either on its own or together with other resources that are readily available to the customer (that is, the good or service is capable of being distinct) and (ii) the entity's promise to transfer the good or service to the customer is separately

identifiable from other promises in the contract (that is, the promise to transfer the good or service is distinct within the context of the contract). In assessing whether a promised good or service is distinct, we consider factors such as the research, manufacturing and commercialization capabilities of the collaboration partner, and the availability of the associated expertise in the general marketplace. We also consider the intended benefit of the contract in assessing whether a promised good or service is separately identifiable from other promises in the contract. If a promised good or service is not distinct, an entity is required to combine that good or service with other promised goods or services until it identifies a bundle of goods or services that is distinct.

The transaction price is then determined and allocated to the identified performance obligations in proportion to their standalone selling prices (“SSP”) on a relative SSP basis. SSP is determined at contract inception and is not updated to reflect changes between contract inception and when the performance obligations are satisfied. Determining the SSP for performance obligations requires significant judgment. In developing the SSP for a performance obligation, we consider applicable market conditions and relevant entity-specific factors, including factors that were contemplated in negotiating the agreement with the customer and estimated costs. We validate the SSP for performance obligations by evaluating whether changes in the key assumptions used to determine the SSP will have a significant effect on the allocation of arrangement consideration between multiple performance obligations.

If the consideration promised in a contract includes a variable amount, we estimate the amount of consideration to which it will be entitled in exchange for transferring the promised goods or services to a customer. We determine the amount of variable consideration by using the expected value method or the most likely amount method. We include the unconstrained amount of estimated variable consideration in the transaction price. The amount included in the transaction price is constrained to the amount for which it is probable that a significant reversal of cumulative revenue recognized will not occur. At the end of each subsequent reporting period, we re-evaluate the estimated variable consideration included in the transaction price and any related constraint, and if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis in the period of adjustment.

If an arrangement includes development and regulatory milestone payments, we evaluate whether the milestones are considered probable of being reached and estimates the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price. Milestone payments that are not within our control or the licensee’s control, such as regulatory approvals, are generally not considered probable of being achieved until those approvals are received.

For arrangements with licenses of intellectual property that include sales-based royalties, including milestone payments based on the level of sales, and the license is deemed to be the predominant item to which the royalties relate, we recognize royalty revenue and sales-based milestones at the later of (i) when the related sales occur, or (ii) when the performance obligation to which the royalty has been allocated has been satisfied.

In determining the transaction price, we adjust consideration for the effects of the time value of money if the timing of payments provides us with a significant benefit of financing. We do not assess whether a contract has a significant financing component if the expectation at contract inception is such that the period between payment by the licensees and the transfer of the promised goods or services to the licensees will be one year or less. We assessed our revenue generating arrangement in order to determine whether a significant financing component exists and concluded that a significant financing component does not exist.

We then recognize as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) each performance obligation is satisfied, either at a point in time or over time, and if over time recognition is based on the use of an output or input method.

Collaborative arrangement revenue

On May 31, 2021, and amended on September 26, 2022, the Company entered into the LianBio License Agreement with LianBio, to develop and commercialize LYR-210 in Greater China (mainland China, Hong Kong, Taiwan, and Macau), South Korea, Singapore and Thailand. See Note 9 to the consolidated financial statements included in this Annual Report on Form 10-K for further discussion of the arrangement.

As part of the accounting for this arrangement, we must develop assumptions that require judgment to determine the stand-alone selling price for each performance obligation identified in the contract. For example, a proportion of the stand-alone selling price is related to research and clinical trial work and development performed whereby revenue is

recognized as the underlying services are performed using a cost-to-cost model. We measure the extent of progress towards completion based on the ratio of actual costs incurred to the total estimated costs expected upon satisfying the identified performance obligation.

Accrued Research and Development Expenses

As part of the process of preparing our consolidated financial statements, we are required to estimate our accrued research and development expenses. This process involves reviewing purchase orders and open contracts, communicating with our personnel to identify services that have been performed on our behalf, and estimating the level of service performed and the associated cost incurred for the services when we have not yet been invoiced or otherwise notified of the actual cost. The majority of our service providers invoice us monthly in arrears for services performed, on a pre-determined schedule, or when contractual milestones are met; however, some require advance payments. We make estimates of our accrued expenses as of each balance sheet date in our consolidated financial statements based on facts and circumstances known to us at that time. We periodically confirm the accuracy of our estimates with the service providers and make adjustments if necessary. The significant estimates in our accrued research and development expenses include the following costs incurred for services in connection with research and development activities for which we have not yet been invoiced:

- vendors in connection with preclinical development activities;
- vendors in connection with the testing of preclinical and clinical trial materials;
- CROs in connection with preclinical and clinical studies; and
- investigative sites in connection with clinical trials.

We contract with CROs to conduct clinical and other research and development services on our behalf. We base our expenses related to CROs on our estimates of the services received and efforts expended pursuant to quotes and contracts with them. The financial terms of these agreements are subject to negotiation, vary from contract to contract, and may result in uneven payment flows. There may be instances in which payments made to our CROs will exceed the level of services provided and result in a prepayment of the research and development expense. In accruing service fees, we estimate the time period over which services will be performed and the level of effort to be expended in each period. If the actual timing of the performance of services or the level of effort varies from our estimate, we adjust the accrual or amount of prepaid expense accordingly. Non-refundable advance payments for goods and services that will be used in future research and development activities are expensed when the activity has been performed or when the goods have been received rather than when the payment is made.

Although we do not expect our estimates to be materially different from amounts actually incurred, our understanding of the status and timing of services performed relative to the actual status and timing of services performed may vary and may result in reporting amounts that are too high or too low in any particular period. To date, there have not been any material adjustments to our prior estimates of accrued research and development expenses.

Stock-Based Compensation

We apply the fair value recognition provisions of ASC 718, *Compensation—Stock Compensation*, or ASC 718, for stock-based awards granted to employees and directors for their services on the board of directors. Determining the amount of stock-based compensation to be recorded requires us to develop estimates of the fair value of stock options as of their grant date. We estimate the fair value of each stock option grant using the Black-Scholes option-pricing model. Calculating the fair value of stock-based awards requires that we make subjective assumptions.

Pursuant to ASC 718, we measure stock-based awards granted to employees and members of the board of directors at fair value on the date of grant and recognize the corresponding stock-based compensation expense of those awards on a straight-line basis over the requisite service period, which is generally the vesting period of the respective award. We have historically granted stock options with exercise prices equivalent to the fair value of our common stock as of the date of grant.

We account for stock-based awards to non-employees in accordance with ASU No. 2018-07, *Compensation-Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting*, or ASU No. 2018-07, which simplifies the accounting for stock-based payments granted to non-employees for goods and services. Under ASU No. 2018-07, most of the guidance on such payments to non-employees would be aligned with the requirements for stock-based payments granted to employees. Prior to January 1, 2019, we accounted for stock-based payments to non-employees in accordance with ASC 505-50, *Equity-Based Payments to Non-Employees*, or ASC 505-50. Pursuant to ASC 505-50, we measured stock-based awards granted to non-employees at fair value as the awards vested and recognized the resulting value as expense during the period the related services were rendered, which was typically the vesting period.

The Black-Scholes option-pricing model uses the following inputs: the fair value of our common stock, the expected volatility of our common stock, the expected term of our stock options, the risk-free interest rate for a period that approximates the expected term of our stock options, and our expected dividend yield. We utilize historical volatility to approximate expected volatility. Prior to our IPO in 2020, we have historically been a private company and lack company-specific historical and implied volatility data. Therefore, we have based our computation of expected volatility on the historical volatility of a representative group of public companies with similar characteristics to us, including stage of product development, life science industry focus, length of trading history, and similar vesting provisions. The historical volatility data is calculated based on a period of time commensurate with the expected term assumption. We will continue to apply this process until a sufficient amount of historical information regarding the volatility of our own stock price becomes available or until circumstances change, such that the identified entities are no longer representative companies. In the latter case, more suitable, similar entities whose share prices are publicly available would be utilized in the calculation. We use the simplified method as prescribed by the SEC Staff Accounting Bulletin No. 107, *Share-Based Payment*, to calculate the expected term for options granted to employees as it does not have sufficient historical exercise data to provide a reasonable basis upon which to estimate the expected term. The expected term is applied to the stock option grant group as a whole, as we do not expect substantially different exercise or post-vesting termination behavior among its employee population. For options granted to non-employees, we utilize the contractual term of the share-based payment as the basis for the expected term assumption. The risk-free interest rate is based on a treasury instrument whose term is consistent with the expected term of the stock options. The expected dividend yield is assumed to be zero as we have never paid cash dividends and has no current plans to pay any cash dividends on its common stock. Our policy is to recognize forfeitures as they occur.

Results of Operations

Comparison of the Years Ended December 31, 2022 and 2021

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

	Year Ended December 31,		Dollar Change
	2022	2021	
Collaboration revenue	\$ 1,363	\$ 285	\$ 1,078
Operating expenses:			
Research and development	38,797	29,694	9,103
General and administrative	17,556	14,206	3,350
Loss on impairment of long-lived assets	1,316	—	1,316
Total operating expenses	57,669	43,900	13,769
Loss from operations	(56,306)	(43,615)	(12,691)
Other income:			
Interest income	1,041	102	939
Total other income	1,041	102	939
Net loss before taxes	(55,265)	(43,513)	(11,752)
Income tax expense	(13)	—	(13)
Net loss	\$ (55,278)	\$ (43,513)	\$ (11,765)

Collaboration Revenue

The increase in collaboration revenue was a result of revenue recognized under the LianBio License Agreement.

Research and Development Expenses

Research and development expense increased by \$9.1 million to \$38.8 million for the year ended December 31, 2022 from \$29.7 million for the year ended December 31, 2021.

The increase in research and development expenses for the year ended December 31, 2022 was primarily attributable to an increase in clinical spend of \$9.0 million as we progress along our clinical trials; an increase in employee related costs of \$3.5 million as we increased research and development headcount, including an increase of \$0.3 million of stock-based compensation; and a \$0.4 million cost increase due to depreciation and shared allocation and support costs within research and development. These expenses were partially offset by a \$2.5 million decrease in product development and manufacturing costs; and \$1.1 million decrease in professional and consulting fees as many of these costs were absorbed by the increase in headcount.

General and Administrative Expenses

General and administrative expense increased by \$3.4 million to \$17.6 million for the year ended December 31, 2022 from \$14.2 million for the year ended December 31, 2021.

The increase in general and administrative expenses for the year ended December 31, 2022 was primarily attributable to an increase in employee related fees of \$3.7 million of which \$2.3 million was attributed to stock-based compensation. These were partially offset by \$0.7 million decrease in costs primarily public related which was driven by savings on D&O insurance.

Loss on Impairment of Long-Lived Assets

We recognized \$1.3 million related to loss on long-lived research and development assets. In October of 2022, we terminated an agreement with a contract manufacturer. We have funded certain leasehold improvements at the CMO's facility that we do not anticipate receiving the benefit of in the future and have accordingly impaired the respective assets.

Interest Income

Interest income increased \$0.9 million to \$1.0 million for the year ended December 31, 2022 from \$0.1 million for the year ended December 31, 2021. The increase in interest income was attributable to improved cash management and investment strategy as there was a higher cash balance allowing for investment opportunities in the advantageous rate environment for the year ended December 31, 2022.

Liquidity and Capital Resources

Sources of Liquidity

We have funded our operations from inception through December 31, 2022 primarily with gross proceeds of \$162.1 million from sales of our redeemable convertible preferred stock, net proceeds of \$96.3 million from our April 2022 Financing, net proceeds of \$57.3 million from our IPO, \$16.8 million from government contracts and proceeds of \$17.0 million from our license and collaboration agreement. The following table provides information regarding our total cash, cash equivalents, and short-term investments at December 31, 2022 and 2021 (in thousands):

	As of December 31,	
	2022	2021
Cash and cash equivalents	\$ 32,550	\$ 45,747
Short-term investments	\$ 65,344	\$ —

We currently have an effective shelf registration statement on Form S-3 (No. 333-256020) filed with the SEC on May 11, 2021, or the Form S-3, under which we may offer from time to time in one or more offerings any combination of

common and preferred stock, debt securities, warrants and units of up to \$250.0 million in the aggregate. As of December 31, 2022, we have not sold any securities under the Form S-3.

On May 11, 2021, we entered into an Open Market Sales Agreement, or 2021 ATM Agreement, or Sales Agreement, with Jefferies LLC, or Jefferies, to sell shares of our common stock, from time to time, with aggregate gross sales proceeds of up to \$50.0 million, through an at-the-market equity offering program under which Jefferies will act as our sales agent. As of December 31, 2022, we had received no proceeds from the sale of shares of common stock pursuant to the 2021 ATM Agreement. As of March 27, 2023 we terminated the 2021 ATM agreement with Jefferies.

On April 13, 2022, the Company announced the closing of its private placement of common stock (or, in lieu thereof, pre-funded warrants to purchase common stock), resulting in gross proceeds of approximately \$100.5 million ("April 2022 Financing"). The Company received approximately \$96.3 million in net proceeds after deducting estimated offering costs of \$4.2 million. Pursuant to the securities purchase agreement, (i) certain investors purchased an aggregate of 18,815,159 shares of common stock at \$4.22 per share for gross proceeds to the Company of \$79.4 million and (ii) certain investors purchased pre-funded warrants to purchase an aggregate of 5,000,000 shares of common stock, with the exercise price of \$0.001 per share for gross proceeds of \$21.1 million to the Company. The warrants are exercisable on and after April 13, 2022 and expire on April 12, 2027.

Cash Flows

The following table provides information regarding our cash flows for the years ended December 31, 2022 and 2021 (in thousands):

	Year Ended December 31,	
	2022	2021
Net cash used in operating activities	\$ (43,385)	\$ (25,820)
Net cash used in investing activities	(65,006)	(3,385)
Net cash provided by financing activities	96,257	359
Net decrease in cash, cash equivalents and restricted cash	<u>\$ (12,134)</u>	<u>\$ (28,846)</u>

Net Cash Used in Operating Activities

The cash used in operating activities resulted primarily from our net losses adjusted for non-cash charges and changes in components of working capital.

Net cash used in operating activities was \$43.4 million for the year ended December 31, 2022, primarily resulting from our net loss of \$55.3 million, partially offset by non-cash adjustments of \$7.3 million and cash provided by changes in our operating assets and liabilities of \$4.6 million. Our net loss was primarily attributed to research and development activities and our general and administrative expenses. Our net non-cash charges during the year ended December 31, 2022 primarily consisted of \$5.4 million of share-based compensation expense, \$1.3 million of non-cash loss on impairment of long-lived assets and \$1.1 million of depreciation expense, which were partially offset by \$0.5 million of net amortization of premiums on short-term investments. Net cash provided by changes in our operating assets and liabilities during the year ended December 31, 2022 consisted primarily of an increase of \$3.6 million of deferred revenue, \$2.4 million, net increase in accrued expenses and accounts payable due to the timing of payments, partially offset by an increased in prepaid expenses and other assets of \$1.3 million, also due to the timing of payments.

Net cash used in operating activities was \$25.8 million for the year ended December 31, 2021, primarily resulting from our net loss of \$43.5 million, partially offset by non-cash charges of \$3.7 million and cash provided by changes in our operating assets and liabilities of \$14.0 million. Our net loss was primarily attributed to research and development activities, and our general and administrative expenses. Our net non-cash charges during the year ended December 31, 2021 primarily consisted of \$2.7 million of stock-based compensation expense and \$1.0 million of depreciation expense. Net cash provided by changes in our operating assets and liabilities during the year ended December 31, 2021 consisted primarily of a \$11.7 million increase in deferred revenue due to payments received under our License and Collaboration agreement, and a \$3.6 million increase in accounts payable and accrued expenses, partially offset by a \$1.3 million increase in prepaid expenses and other current assets.

Net Cash Used in Investing Activities

Net cash used in investing activities was \$65.0 million for the year ended December 31, 2022 compared to \$3.4 million for the year ended December 31, 2021. The increase in cash used in investing activities of \$61.6 million was attributable to purchases of short-term investments.

Net Cash Provided by Financing Activities

Net cash provided by financing activities was \$96.3 million for the year ended December 31, 2022 compared to \$0.4 million for the year ended December 31, 2021. The increase in cash provided by financing activities of \$95.9 million was primarily attributable to the gross proceeds of \$100.5 million resulting in net proceeds of \$96.3 million from our April 2022 financing. See Note 7 to the consolidated financial statements included in this Annual Report on Form 10-K for a further discussion of the April 2022 Financing.

Funding Requirements

We expect our expenses to increase in connection with our ongoing activities, particularly as we continue the research and development for, begin the manufacturing scale up process for, initiate later stage clinical trials for, and seek marketing approval for, our product candidates. In addition, if we obtain marketing approval for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing, and distribution. Furthermore, we will continue to incur additional costs associated with operating as a public company. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we would be forced to delay, reduce, or eliminate our research and development programs or future commercialization efforts.

We expect that our existing cash, cash equivalents, and short-term investments will enable us to fund our operating expenses and capital expenditure requirements into mid-2024. We have based this estimate on assumptions that may prove to be wrong, and we may use our available capital resources sooner than we currently expect. Our future capital requirements will depend on many factors, including:

- the costs of conducting future clinical trials of LYR-210 and LYR-220;
- the costs of manufacturing additional material for one or more pivotal Phase 3 clinical trials of LYR-210 and a Phase 2 clinical trial of LYR-220 as well as potential future clinical studies we might conduct for our other product candidates;
- the costs of scaling up our manufacturing process and supply chain capacity to provide sufficient quantities of LYR-210 and LYR-220 for the potential commercialization of LYR-210 and LYR-220 if our clinical development program is successful and we obtain marketing approval;
- the scope, progress, results, and costs of discovery, preclinical development, laboratory testing, and clinical trials for other potential product candidates we may develop, if any;
- the costs, timing, and outcome of regulatory review of our product candidates;
- our ability to establish and maintain collaborations on favorable terms, if at all;
- the achievement of milestones or occurrence of other developments that trigger payments under any collaboration agreements we might have at such time;
- the costs and timing of future commercialization activities, including product sales, marketing, manufacturing, and distribution, for any of our product candidates for which we receive marketing approval;
- the amount of revenue, if any, received from commercial sales of our product candidates, should any of our product candidates receive marketing approval;

- the costs of preparing, filing, and prosecuting patent applications, obtaining, maintaining, and enforcing our intellectual property rights, and defending intellectual property-related claims;
- our headcount growth and associated costs as we expand our business operations, our research and development activities, and our manufacturing scale up;
- the costs of operating as a public company; and
- the cost of potential business interruptions resulting from COVID-19.

Identifying potential product candidates and conducting preclinical testing and clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain marketing approval and achieve product sales. In addition, our product candidates, if approved, may not achieve commercial success. Our commercial revenues, if any, will be derived from sales of products that we do not expect to be commercially available for many years, if at all. Accordingly, we will need to continue to rely on additional financing to achieve our business objectives. Adequate additional financing may not be available to us on acceptable terms, or at all.

Further, the global economy, including credit and financial markets, has recently experienced extreme volatility and disruptions, including severely diminished liquidity and credit availability, rising interest and inflation rates, declines in consumer confidence, declines in economic growth, increases in unemployment rates and uncertainty about economic stability. All of these factors could impact our liquidity and future funding requirements, including but not limited to our ability to raise additional capital when needed on acceptable terms, if at all. The duration of this economic slowdown is uncertain and the impact on our business is difficult to predict. See “Risk Factors— Unstable global political or economic conditions may have serious adverse consequences on our business, financial condition and share price.

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, strategic alliances, and licensing arrangements. We do not have any committed external source of funds. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interests may be diluted, and the terms of these securities may include liquidation or other preferences that could adversely affect your rights as a common stockholder. We have access to additional funds to be earned in connection with our LianBio License Agreement, if development activities are successful under that agreement. Any debt financing, if available, may involve agreements that include restrictive covenants that limit our ability to take specific actions, such as incurring additional debt, making capital expenditures, or declaring dividends, that could adversely impact our ability to conduct our business.

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

Emerging Growth Company Status

The JOBS Act permits an “emerging growth company” such as us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. We have elected to use this extended transition period under the JOBS Act. As a result, our financial statements may not be comparable to the financial statements of issuers who are required to comply with the effective dates for new or revised accounting standards that are applicable to public companies, which may make comparison of our financials to those of other public companies more difficult.

We will remain an emerging growth company until the earliest to occur of: (1) the last day of the fiscal year (a) following the fifth anniversary of the completion of our IPO, or December 31, 2025, (b) in which we have total annual gross revenues of \$1.235 billion or more, or (c) in which we are deemed to be a large accelerated filer under the rules of the SEC, which means the market value of our outstanding common stock held by non-affiliates exceeds \$700 million as of last business day of our most recently completed second fiscal quarter, and (2) the date on which we have issued more than \$1.0 billion in nonconvertible debt during the previous three years.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

Quantitative and Qualitative Disclosures About Market Risk

We are a smaller reporting company as defined in Rule 12b-2 of the Exchange Act and are not required to provide the information otherwise required under this Item 7A.

Item 8. Financial Statements and Supplementary Data.

The consolidated financial statements required to be filed pursuant to this Item 8 are appended to this report and are incorporated herein by reference. An index to those financial statements is found in Item 15 of Part IV of this Annual Report on Form 10-K.

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

None.

Item 9A. Controls and Procedures.

Management's Evaluation of Disclosure Controls and Procedures

Limitations on Effectiveness of Controls and Procedures

In designing and evaluating our disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply judgment in evaluating the benefits of possible controls and procedures relative to their costs.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated, as of the end of the period covered by this Annual Report on Form 10-K, the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were not effective at the reasonable assurance level as of December 31, 2022.

As further described below, our management is in the process of developing and implementing plans to remediate the material weakness identified, but it has not been remediated as of the date of filing of this Annual Report on Form 10-K.

Material Weakness in Internal Control over Financial Reporting

In connection with the preparation of our unaudited consolidated financial statements as of and for the three and nine months ended September 30, 2022, management identified a material weakness in our internal control over financial reporting related to the allocation of the transaction price related to the LianBio License Agreement, which was entered into on May 31, 2021, and amended on September 26, 2022, and the associated allocation of previously identified constrained amounts of the transaction price to the two performance obligations identified in the LianBio License Agreement. This material weakness resulted in a restatement of our previously issued financial statements as of and for the three months ended March 31, 2022 and our previously issued financial statements as of and for the three and six months ended June 30, 2022.

Remediation Process

We continue to evaluate the material weakness and are continuing to develop and implement a plan of remediation to strengthen the effectiveness of the design and operation of our internal control environment. Our remediation plan includes the following actions:

- Enhance our review procedures with respect to accounting for any new and complex transactions, such as the LianBio License Agreement, as well as the periodic evaluation of ongoing activities associated with any collaboration and license agreements and the related accounting and disclosure;
- Implement additional review procedures with respect to accounting under ASC 808 and ASC 606 to ensure our accounting will continue to be in accordance with that guidance on an ongoing basis; and
- Implement additional identification, accounting, and review controls with respect to complex and nonrecurring transactions, as well as augment existing staff with outside technical accounting resources, as appropriate, and strengthen the review process.

The actions that we are taking are subject to ongoing senior management review as well as Audit Committee oversight. We are committed to maintaining a strong internal control environment and believe that these remediation efforts will represent significant improvements to the internal controls around complex nonrecurring transactions. We have started to implement these steps; however, some of these steps will take time to be fully integrated and assessed as being designed and operating effectively. Until the remediation steps set forth above are fully implemented and tested, the material weakness described above will continue to exist.

Notwithstanding the identified material weakness, management believes that the consolidated financial statements included in this Annual Report on Form 10-K present fairly, in all material respects, our financial position, results of operations, and cash flows as of and for the periods presented in accordance with U.S. GAAP.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act). Management conducted an assessment of the effectiveness of the Company's internal control over financial reporting based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, our management concluded that, as of December 31, 2022, our internal control over financial reporting was not effective as a result of the material weakness described above.

Attestation Report of the Independent Registered Public Accounting Firm

This Annual Report on Form 10-K does not include an attestation report of our independent registered public accounting firm on internal control over financial reporting due to an exemption established by the JOBS Act for "emerging growth companies."

Changes in Internal Control over Financial Reporting

Except as described above, there was no change in our internal control over financial reporting identified in management's evaluation pursuant to Rules 13a-15(f) or 15d-15(f) of the Exchange Act during the quarter ended December 31, 2022 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information.

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.

Not Applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

Information about our Directors

The following table presents information concerning our board of directors as of December 31, 2022.

<u>Name</u>	<u>Age</u>	<u>Position</u>	<u>In Current Position Since</u>
Harlan W. Waksal, M.D.	69	Executive Chair and Chairperson of the Board	February 2022
Maria Palasis, Ph.D.	58	President and Chief Executive Officer and Director	January 2015
Michael Altman	41	Director	June 2018
Edward Anderson	73	Director	February 2019
C. Ann Merrifield	71	Director	September 2019
Konstantin Poukalov	39	Director	January 2020
W. Bradford Smith	67	Director	November 2019
Nancy Snyderman, M.D., FACS	70	Director	October 2020
James R. Tobin	78	Director	March 2022

The following are brief biographies describing the backgrounds of our directors.

Harlan W. Waksal, M.D. has served as our Executive Chair since February 2022 and was elected to our board of directors in February 2022. Prior to his role with us as Executive Chair, Dr. Waksal served as President and Chief Executive Officer of Kadmon Holdings, Inc., or Kadmon, a biopharmaceutical company, from August 2014 and a director since 2013 until its acquisition by Sanofi in November 2021. Prior to joining Kadmon as an employee, Dr. Waksal served as President and Sole Proprietor of Waksal Consulting LLC from 2003 to 2014. From 2011 to 2014, Dr. Waksal served as Executive Vice President, Business and Scientific Affairs at Acasti Pharma, Inc., a publicly traded biopharmaceutical company, and as a consultant to Neptune Technologies & Bioresources, Inc., a publicly traded life sciences company and the parent company of Acasti. Dr. Waksal co-founded ImClone Systems (“ImClone”) in 1987, a publicly traded biopharmaceutical company acquired by Eli Lilly and Company in 2008. Dr. Waksal served in senior roles at ImClone, including: President (1987 to 1994); Executive Vice President and Chief Operating Officer (1994 to 2002); and President, Chief Executive Officer and Chief Operating Officer (2002 to 2003). Dr. Waksal also served as a Director of ImClone from 1987 to 2005. Dr. Waksal served on the boards of Oberlin College and Sevion Therapeutics through March 2016 and the boards of Acasti and Neptune through February 2016 and July 2015, respectively. Dr. Waksal's additional roles include serving as a Member of the Board of Directors at Neptune Technologies & Bioresources, Observer of the Board of Directors at NeuroBiopharm, Chairman of the American Committee for the Weizmann Institute of Science and Member of the Technology Advisory Board at the New Jersey Edison Innovation Fund. Dr. Waksal received his B.A. from Oberlin College and his M.D. from Tufts University School of Medicine. He completed his training in internal medicine at New England Medical Center and in pathology at Kings County Hospital Center in Brooklyn. We believe Dr. Waksal’s extensive management experience in the life science industry and drug development experience provides him with the qualifications and skills to serve on our board of directors.

Maria Palasis, Ph.D. has served as our President and Chief Executive Officer and a member of our board of directors since January 2015. Prior to her role with us as President and Chief Executive Officer, Dr. Palasis held positions of increasing responsibility, the most recent of which was Executive Vice President and Chief Technology Officer from 2011 to 2015. Before that, in 2008, Dr. Palasis joined Arsenal Medical, Inc., a biotechnology company, as Executive Vice President and subsequently served as President and Chief Executive Officer and a member of the board of directors of Arsenal Medical from January 2015 to June 2018. Before that, from November 1995 to January 2008, Dr. Palasis was employed with the title of Director at Boston Scientific Corporation, a medical device company, where she managed a portfolio of external biotech and medical device investments and led the development of several combination therapies. Dr. Palasis holds a B.S. and Ph.D. in Chemical Engineering from the University of Cincinnati, and she held a postdoctoral fellowship in molecular biology at the University of Cincinnati School of Medicine. We believe that Dr. Palasis’ experience in the industry and knowledge of our Company qualifies her to serve on our board of directors.

Michael Altman has served as a member of our board of directors since June 2018. Since 2007, Mr. Altman has been employed on the investment team at Perceptive Advisors, a life sciences focused investment firm, where he currently serves as Managing Director and focuses on medical devices, diagnostics, digital health and specialty pharmaceutical investments. Since October 2018, Mr. Altman has also served as Chief Financial Officer and member of the board of directors of ARYA Sciences Acquisition Corp., a special purpose acquisition company. From October 2005 to October 2007, Mr. Altman served as a healthcare trader and analyst at First New York Securities. Since June 2021, Mr. Altman has served on the board of directors of Nautilus Biotechnologies, Inc., a biotechnology company. Mr. Altman has also served on the board of directors of Vitruvius Therapeutics, Inc., a pharmaceutical company, since January 2018, and Vensun Pharmaceuticals, Inc., a pharmaceutical company, from November 2016 to January 2019. Mr. Altman holds a B.S. in Business Administration from the University of Vermont. We believe that Mr. Altman's broad operational and transactional experience qualifies him to serve on our board of directors.

Edward Anderson has served as a member of our board of directors since February 2019. Mr. Anderson founded two venture capital firms, North Bridge Venture Partners in May 1993, where he currently serves as a Managing Partner focusing on early-stage high-tech companies, and North Bridge Growth Equity in February 2007. Mr. Anderson currently serves as a member of the board of directors of Couchbase, Inc., a public software company, since 2020 and MarkForged, an IT company, since 2015. Mr. Anderson holds an M.A. from Columbia Business School and a B.F.A. from University of Denver, where he has served on the board of trustees since 2011 and currently serves as chair on its Investment Committee. We believe that Mr. Anderson's extensive experience in venture capital investments qualifies him to serve on our board of directors.

C. Ann Merrifield has served as a member of our board of directors since September 2019. Ms. Merrifield has also served as a member of the boards of directors for a portfolio of public and private companies in the life sciences sector, which include InVivo Therapeutics Holdings Corp., since November 2014, and Flexion Therapeutics, Inc., from June 2014 to November 2021 until it was acquired by Pacira BioSciences. From July 2015 to August 2018, she served as a director of Juniper Pharmaceuticals, Inc., a healthcare company, until it was acquired by Catalent, Inc. and from December 2016 to January 2019, she served as a director of Veritas Genetics, Inc. Ms. Merrifield also serves as a Trustee for MassMutual Premier, Select and MML Series Investment Funds, Spaulding Rehabilitation Network (the post-acute care services division of Mass General Brigham), the Huntington Theatre Company and the YMCA of Greater Boston. From November 2012 to July 2014, Ms. Merrifield served as President, Chief Executive Officer and director of PathoGenetix Inc., a genomics company, which voluntarily filed for Chapter 7 bankruptcy in July 2014. Before that, Ms. Merrifield spent 18 years at Genzyme Corporation, serving in several leadership roles, including President of Genzyme Biosurgery, President of Genzyme Genetics and Senior Vice President, Business Excellence. Ms. Merrifield holds a B.A. in Zoology and a Master of Education from the University of Maine and an M.B.A. from the Tuck School of Business at Dartmouth College. We believe that Ms. Merrifield's extensive industry experience qualifies her to serve on our board of directors.

Konstantin Poukalov has served as a member of our board of directors since January 2020. Since March 2019, Mr. Poukalov has served as Managing Director at Perceptive Advisors, a life sciences focused investment firm. Since October 2019, Mr. Poukalov has served on the board of directors of LianBio, a biotechnology company. From July 2012 to October 2018, Mr. Poukalov served in roles of increasing responsibility at Kadmon Holdings, Inc., a biopharmaceutical company, most recently serving as Executive Vice President and Chief Financial Officer from July 2014 to October 2018. Mr. Poukalov holds a B.S. in Electrical Engineering from Stony Brook University. We believe that Mr. Poukalov's extensive financial and industry experience qualify him to serve on our board of directors.

W. Bradford Smith has served as a member of our board of directors since November 2019. Mr. Smith has served as the Chief Financial Officer, Chief Business Officer and Treasurer since March 2022 and Chief Financial Officer and Treasurer from April 2017 to March 2022 of Homology Medicines, Inc., a genetic medicines company, since April 2017 and as Secretary since July 2017. From March 2014 to April 2017, Mr. Smith was Chief Financial Officer of Ocular Therapeutix, Inc., a biopharmaceutical company. Prior to joining Ocular Therapeutix, Mr. Smith served as Chief Financial Officer of OmniGuide, Inc., a medical device company, from July 2008 to March 2014. Since May 2021, Mr. Smith has served on the board of directors of eGenesis, a private gene editing company. Mr. Smith holds a B.S. in Biology from Tufts University and an M.B.A. from the Whittemore School of Business and Economics at the University of New Hampshire. We believe that Mr. Smith's extensive financial and industry experience qualify him to serve on our board of directors.

Nancy Snyderman, M.D., FACS has served as a member of our board of directors since October 2020. Dr. Snyderman has also served on the boards of directors of Axonics Modulation Technologies, Inc., a medical device company, since April 2019 and Alkermes plc, a biopharmaceutical company, since May 2016. From 2006 to 2018, Dr. Snyderman served as an advisory board member to GE's Healthymagination, General Electric Company's healthcare initiative. From 2003 to 2008, Dr. Snyderman also served as a vice president for corporate communications at Johnson & Johnson. Dr. Snyderman is a board-certified head and neck surgeon and has had academic appointments at the University of Pennsylvania and the University of California-San Francisco. From 2016 to 2018, she served as a professor at the Center for Innovation for Global Health at Stanford University. Dr. Snyderman is an Emmy award winning medical correspondent, having worked at ABC News from 1987 to 2003 and later as chief medical editor at NBC News from 2004 to 2015. Dr. Snyderman holds a B.A. in Microbiology from Indiana University and a M.D. from the University of Nebraska and has completed residencies in Pediatrics and Otolaryngology Head and Neck Surgery at the University of Pittsburgh. We believe that Dr. Snyderman's extensive experience as a veteran healthcare journalist, a practicing physician, and an executive at a pharmaceutical company, as well as her roles in academia and as advisor to policy organizations, qualify her to serve on our board of directors.

James R. Tobin has served as a member of our board of directors since March 2022. Mr. Tobin is the retired President and CEO of Boston Scientific Corporation, a medical device company, where he served from 1999 to 2009. Prior to Boston Scientific, Mr. Tobin was the President and CEO of Biogen Inc., and, from 1994 to 1997, its President and Chief Operating Officer. Before Biogen, Mr. Tobin spent 22 years with Baxter International Inc., rising from Financial Analyst to President and Chief Operating Officer. Mr. Tobin currently serves as Chairman of the Board at TransMedics, Inc. and as a director of Globus Medical Inc., each of which are public companies, and as a director at Impulse Dynamics N.V. and Xenter, Inc., both private companies. Mr. Tobin has also served on the boards of Oxford Immunotec, Inc., from 2014 to 2021, Corindus Vascular Robotics, from 2018 to 2019, Curis, Inc., from 1995 to 2015, Medical Simulation Corp, from 2012 to 2018, CardioDX, Inc., from 2014 to 2017, Chiasma, Inc., from 2015 to 2016, and Aptus Endosystems, Inc. from 2011 to 2015. Mr. Tobin holds an AB from Harvard College and an M.B.A. from Harvard Business School. Mr. Tobin also served as a Lieutenant in the U.S. Navy. We believe Mr. Tobin is qualified to serve on our board of directors because of his decades of experience as President and Chief Executive Officer or Chief Operating Officer of three large biotechnology and medical device companies.

Information about our Executive Officers

The following table presents information concerning our executive officers as of March 1, 2023.

Name	Age	Position	In Current Position Since
Harlan W. Waksal, M.D.	69	Executive Chair and Chairperson of the Board	February 2022
Maria Palasis, Ph.D.	58	President and Chief Executive Officer and Director	January 2015
Jason Cavalier	50	Chief Financial Officer, Treasurer and Secretary	September 2021
Richard Nieman, M.D.	60	Chief Medical Officer	July 2022
Robert Richard, Ph.D.	66	Senior Vice President of Technical Operations	June 2020
John E. Bishop, Ph.D	61	Chief Technology Officer	February 2023
Corinne Noyes	55	Senior Vice President of Commercial Strategy and Market Development	September 2018

The following are brief biographies describing the backgrounds of our executive officers.

The biography for Dr. Waksal appears above.

The biography for Dr. Palasis appears above.

Jason Cavalier has served as our Chief Financial Officer, Treasurer, and Secretary since September 2021. Prior to joining our Company, Mr. Cavalier served as a Managing Director and the Head of Life Sciences Mergers and Acquisitions at Cantor Fitzgerald & Co., where he led transactions across the medical technology, diagnostics and biopharma sectors, from 2017 to 2021. Prior to that, Mr. Cavalier served as a Director, Mergers and Acquisitions, at RBC Capital Markets LLC from 2009 to 2017, where he primarily focused on advising senior management and boards of directors on a range of strategic advisory assignments including mergers, acquisitions, divestitures and leveraged buyouts. Mr. Cavalier has also held positions of increasing responsibility within the investment banking divisions of Barclays Capital Inc., Bear Stearns & Co. Inc., and Lehman Brothers Inc. Mr. Cavalier received a B.S. in Applied Economics and Business Management from Cornell University and an M.B.A. from Columbia University Business School.

Richard Nieman, M.D. has served as our Chief Medical Officer since July 2022. Dr Nieman, a pulmonologist by training, has had prior leadership roles as SVP & Worldwide Medical Head of Immunology at Bristol Myers Squibb (BMS) from March to November 2020, Head of R&D China at BMS, Global Medical Officer & Head of Medical at Teva from January 2013 to March 2018, and Head of Asia-Pacific Medical at Bayer from January 2009 to December 2012. At Teva, he led the company's medical and health economic and outcome research (HEOR) function of 550 professionals and was a member of the Specialty Executive Team. He has been involved in bringing numerous important medicines to the market in the U.S. and Europe, including Cinquair in asthma, Copaxone 40 mg 3x/week in multiple sclerosis, Austedo in movement disorders, Ajovy in migraine and Xarelto in thrombosis and stroke prevention. Richard is a Fellow of the UK Royal College of Physicians, a Visiting Senior Lecturer at the School of Cancer and Pharmaceutical Sciences, Kings College, London, and was a Visiting Professor at Fudan University School of Public Health in Shanghai, China. He has published extensively and trained and practiced medicine in the UK.

Robert Richard, Ph.D. has served as our Senior Vice President of Technical Operations since June 2020. Prior to joining our Company, from February 2019 to May 2020 Dr. Richard served as Vice President of Research and Development at Anika Therapeutics, Inc., a therapeutics company. Prior to that, he held research and development leadership positions at Hyalex Orthopaedics, Inc., a medical device company, from November 2017 to February 2019, C.R. Bard, Inc., a medical device company, from June 2008 to November 2017, Boston Scientific Corporation, a global medical device company, from September 2000 to June 2008, and Johnson & Johnson, a global medical device, pharmaceutical and consumer product company, from September 1991 to August 2000. Dr. Richard holds a B.S. in chemistry and a B.S. in biology from University of Massachusetts at Dartmouth and a Ph.D. in polymer chemistry and plastics engineering from the University of Massachusetts at Lowell.

Corinne Noyes has served as our Senior Vice President of Commercial Strategy and Market Development since September 2018. Prior to joining our Company, from January 2018 to August 2018, Ms. Noyes served as an independent contractor to our Company, providing biopharmaceutical consulting services. Before that, from January 2005 to August 2018, Ms. Noyes worked as a strategic advisor and independent biopharmaceutical consultant providing commercial leadership to emerging life sciences companies, including, among others, AMAG Pharmaceuticals, Inc., Avila Therapeutics, Inc. (Celgene Corporation), Adnexus Therapeutics Inc. (Bristol-Myers Squibb Company), Constellation Pharmaceuticals, Inc. and Editas Medicine, Inc. Before that, from 1997 to 2004, Ms. Noyes held various commercial leadership positions at Biogen Inc., a biotechnology company. Prior to joining Biogen Inc., from 1992 to 1996, Ms. Noyes worked as a health care strategy consultant at Deloitte & Touche LLP. Ms. Noyes holds a B.A. in Humanities and a B.B.A. in Business from St. Mary's College of Notre Dame and an M.B.A. in finance from University of Chicago Graduate School of Business.

John E. Bishop, Ph.D. has served as our Chief Technology Officer since February 2023. Dr. Bishop previously served as the Senior Vice President, Chief Technology Officer at Forma Therapeutics Holdings, Inc. (Forma) from June 2021 to February 2023. Prior to joining Forma, he served as Senior Vice President of Pharmaceutical Sciences at Epizyme, Inc. ("Epizyme") from May 2017 to May 2021. Prior to Epizyme, Dr. Bishop was Executive Vice President of Pharmaceutical Sciences at Genocera Biosciences Inc. from May 2016 to May 2017. Prior to that, he held positions of increasing responsibility at Momenta Pharmaceuticals, Inc., including Senior Vice President, Pharmaceutical Sciences from December 2006 to May 2016 and Vice President, Pharmaceutical Sciences and Manufacturing from November 2004 to December 2006. Dr. Bishop received his B.S. magna cum laude in Chemistry and German from Tufts University, his Ph.D. in Organic Chemistry from University of California, Berkeley and his M.B.A. from Northeastern University.

Family Relationships

There are no family relationships among any of our executive officers or directors.

Code of Business Conduct and Ethics

Our Board has adopted a written code of business conduct (the "Code of Business Conduct and Ethics") that applies to all of our directors, officers and employees, including our principal executive officer, principal financial officer and principal accounting officer. A copy of the Code of Business Conduct and Ethics is available on our website at www.lyratx.com in the "Governance" section of the "Investors & News" page. In addition, we intend to post on our website all disclosures that are required by law or The Nasdaq Stock Market LLC concerning any amendments to, or waivers from, any provision of our Code of Business Conduct and Ethics.

Audit Committee and Audit Committee Financial Expert

We have a separately-designated standing audit committee (“Audit Committee”) that consists of Edward Anderson, James R. Tobin and W. Bradford Smith. Mr. Smith serves as the Chair of the Audit Committee. Our board of directors has determined that all members of the audit committee (Edward Anderson, James R. Tobin and W. Bradford Smith) are independent directors under the Nasdaq rules and the additional independence standards applicable to audit committee members established pursuant to Rule 10A-3 under the Exchange Act. Our board of directors has also determined that each of Edward Anderson, James R. Tobin and W. Bradford Smith meets the “financial literacy” requirement for audit committee members under the Nasdaq Stock Market rules and W. Bradford Smith is an “audit committee financial expert” within the meaning of the SEC rules.

Item 11. Executive Compensation.

This section discusses the material components of the executive compensation program for our executive officers who are named in the “2022 Summary Compensation Table” below. In 2022, our “named executive officers” and their positions were as follows:

- Maria Palasis, Ph.D., President and Chief Executive Officer;
- Harlan W. Waksal, M.D., Executive Chair and Chairperson of the Board; and
- Richard Nieman, M.D., Chief Medical Officer.

Dr. Waksal commenced employment with us effective February 16, 2022 and Dr. Nieman commenced employment with us effective July 11, 2022.

2022 Summary Compensation Table

The following table sets forth information concerning the compensation of our named executive officers for the years shown.

Name and Principal Position	Year	Salary (\$)	Option Awards ⁽¹⁾ (\$)	Non-Equity Incentive Plan Compensation ⁽²⁾ (\$)	All Other Compensation (\$)	Total (\$)
Maria Palasis, Ph.D. <i>President and Chief Executive Officer</i>	2022	583,000	870,601	273,000	9,150 ⁽³⁾	1,735,751
	2021	552,115	906,410	287,374	8,700	1,754,599
Harlan W. Waksal, M.D. ⁽⁶⁾ <i>Executive Chairman</i>	2022	175,385	4,839,974	—	12,016 ^(3,4)	5,027,375
Richard Nieman, M.D. ⁽⁷⁾ <i>Chief Medical Officer</i>	2022	205,625	1,024,301	150,000	19,541 ^(3,5)	1,399,467

(1) Amounts represent the full grant date fair value of stock options granted during 2022 computed in accordance with ASC Topic 718, rather than the amounts paid to or realized by the named individual. We provide information regarding the assumptions used to calculate the value of all option awards made to named executive officers in Note 8 to the consolidated financial statements included in this Annual Report on Form 10-K.

(2) Amounts represent performance-based annual cash bonuses determined by our board of directors for the named executive officers for fiscal year 2022.

(3) Amounts represent company 401(k) matching contributions.

(4) The amount represents travel expenses and related tax gross-ups.

(5) The amount represents use of a corporate apartment, travel expenses, and related tax gross-ups.

(6) Dr. Waksal commenced employment with us effective February 16, 2022.

(7) Dr. Nieman commenced employment with us effective July 11, 2022.

Narrative to Summary Compensation Table

2022 Salaries

The named executive officers receive a base salary to provide a fixed component of compensation reflecting the executive's skill set, experience, role and responsibilities. For 2022, the base salaries for Dr. Palasis, Dr. Waksal and Dr. Nieman were \$583,000, \$200,000 and \$455,000, respectively. Dr. Waksal and Dr. Nieman's salaries shown in the 2022 Summary Compensation Table above reflect a partial year of employment.

2022 Bonuses

For 2022, we offered Dr. Palasis and Dr. Nieman the opportunity to earn annual cash bonuses to compensate them for attaining short-term company goals as approved by our board of directors. Consistent with his employment agreement, Dr. Waksal is not eligible for an annual bonus unless our board of directors otherwise determines. For 2022, bonuses were based entirely on attaining clinical, regulatory, research and development, strategic and financial goals. The 2022 target bonuses for each of Dr. Palasis and Dr. Nieman were 55% and 40%, respectively, of his or her annual base salary earned for the year based on each individual's commencement date. Each individual's respective target bonuses was set by the board of directors. The actual annual cash bonuses awarded to Dr. Palasis and Dr. Nieman for 2022 performance are set forth above in the 2022 Summary Compensation Table in the column titled "Non-Equity Incentive Plan Compensation."

Equity Compensation

We offer stock options to our employees, including our named executive officers, as the long-term incentive component of our compensation program. Our stock options generally allow employees to purchase shares of our common stock at a price equal to the fair market value of our common stock on the date of grant. With respect to grants made in connection with the commencement of employment, our stock options typically vest as to 25% of the underlying shares on the first anniversary of the vesting commencement date and in equal monthly installments over the following three years, subject to the holder's continued service with us. From time to time, our board of directors may also construct alternate vesting schedules as it determines are appropriate to motivate particular employees. Historically, our stock options have been intended to qualify as "incentive stock options" to the extent permitted under the Internal Revenue Code.

The following table sets forth the stock options granted to our named executive officers in 2022.

Named Executive Officer	2022 Stock Options Granted
Maria Palasis, Ph.D.	302,400
Harlan W. Waksal, M.D.	1,473,002
Richard Nieman, M.D.	230,000

In connection with our annual performance review in February 2022, Dr. Palasis was granted an option to purchase 127,400 shares of our common stock that vests in 48 equal monthly installments following the vesting commencement date, subject to her continued service with us on each applicable vesting date. In addition, in connection with the amendment of her employment agreement in February 2022, Dr. Palasis was granted a performance-based option to purchase up to 175,000 shares of our common stock that vests based on the achievement of three specified market capitalization targets.

The option awards to Dr. Waksal were made in connection with the commencement of his employment with us and a subsequent equity financing, as described below. The options vest based on the achievement of three specified market capitalization targets. The option award to Dr. Nieman was made in connection with the commencement of his employment with us and is subject to our standard time-based vesting schedule for grants made in connection with the commencement of employment.

Other Elements of Compensation

Retirement Plan

We maintain a 401(k) retirement savings plan for our employees, including our named executive officers, who satisfy certain eligibility requirements. Our named executive officers are eligible to participate in the 401(k) plan on the same

terms as other full-time employees. We believe that providing a vehicle for tax-deferred retirement savings through our 401(k) plan adds to the overall desirability of our executive compensation package and further incentivizes our employees, including our named executive officers, in accordance with our compensation policies. For 2022, we made matching contributions of 50% of the first 6% of eligible compensation contributed under our 401(k) plan.

Employee Benefits and Perquisites

All of our full-time employees, including our named executive officers, are eligible to participate in our employee benefit plans and programs, including medical, dental, and vision benefits, health spending accounts, and short- and long-term disability, accidental death and dismemberment, and life insurance, to the same extent as our other full-time employees, subject to the terms and eligibility requirements of those plans.

Outstanding Equity Awards at 2022 Fiscal Year-End

The following table summarizes the number of shares of common stock underlying outstanding equity incentive plan awards for each named executive officer as of December 31, 2022.

Name	Vesting Commencement Date	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#)	Option Exercise Price (\$)	Option Expiration Date
Maria Palasis, Ph.D.	2/26/2013	24,358	—	—	21.73	6/26/2023
	1/1/2015	94,287	—	—	22.76	9/23/2025
	6/13/2017	31,429	—	31,429 ⁽²⁾	1.73	6/13/2027
	3/6/2019	159,802	10,653 ⁽¹⁾	—	2.76	3/6/2029
	4/30/2020	217,535	108,768 ⁽¹⁾	—	16.00	4/29/2030
	2/8/2021	55,000	65,000 ⁽¹⁾	—	10.63	2/7/2031
	2/12/2022	26,541	100,859 ⁽¹⁾	—	4.78	2/11/2032
	2/16/2022	—	—	175,000 ⁽⁴⁾	4.21	2/15/2032
Harlan W. Waksal, M.D.	2/16/2022	—	—	520,000 ⁽⁴⁾	4.21	2/15/2032
	6/16/2022	—	—	953,002 ⁽⁴⁾	5.09	6/15/2032
Richard Nieman, M.D.	7/11/2022	—	230,000 ⁽³⁾	—	6.08	7/10/2032

- (1) Options vest and become exercisable in equal monthly installments over four years following the vesting commencement date, subject to the named executive officer's continued service with us on each applicable vesting date.
- (2) Options vest and become exercisable at the end of any given three-month period occurring prior to six years from the vesting commencement date in which we recognize revenue from the commercial sale of an FDA-approved product each month and in amounts, with respect to the second and third months of such period that increase from the revenue recognized from such product sales in the immediately preceding month, subject to Dr. Palasis' continued employment with us on each applicable vesting date.
- (3) Options vest and become exercisable as to 25% of the underlying shares on the first anniversary of the vesting commencement date and in 36 equal monthly installments over the following three years, subject to the named executive officer's continued service with us on each applicable vesting date.
- (4) Options vest and become exercisable as to one-third of the shares underlying the option, in each case, upon the achievement of three distinct market capitalization targets during the five-year performance period following the date of grant, provided that no more than one-third of the option may vest prior to the first anniversary of the date of grant, no more than two-thirds of the option may vest prior to the second anniversary of the date of grant and the option may not become fully vested prior to the third anniversary of the date of grant, subject to the named executive officer's continued service on each applicable vesting date.

Executive Employment Agreements

We entered into a new employment agreement with Dr. Palasis in connection with our initial public offering that superseded her prior employment arrangement with us, which was amended effective February 16, 2022, and we entered into employment agreements with Dr. Waksal and Dr. Nieman in connection with their commencement of employment with us. The employment agreements provide for the annual base salaries, as applicable, and annual target bonus opportunities described above under the headings "2022 Salaries" and "2022 Bonuses."

Dr. Waksal is also entitled to reimbursement of reasonable travel and other business expenses incurred in the performance of his duties to the Company in accordance with the Company's expense reimbursement policy.

Until June 30, 2025, and thereafter subject to the discretion of the board of directors, Dr. Nieman is also entitled to (i) reimbursement of reasonable travel expenses from his home to our offices in Massachusetts, and (ii) use of a corporate apartment while working in Massachusetts or reimbursement for reasonable hotel costs while working in Massachusetts; provided, that for each calendar month during which he is entitled to such commuting and housing benefits, the sum of the amount of any such expenses eligible for reimbursement and the cost to the Company of providing a corporate apartment shall not exceed \$6,250. Dr. Nieman is also eligible for reimbursement for income and employment taxes incurred by him as a result of the above commuting payments and benefits.

Pursuant to his employment agreement, Dr. Waksal was entitled to an initial option award in connection with the commencement of his employment, containing the performance-vesting terms described above, and was also promised an anti-dilutive option in an amount equal to the difference between the shares subject to the initial option and four percent of our "capitalization" (as defined in the his employment agreement) immediately following our first bona fide equity financing following February 16, 2022. The anti-dilutive option was granted on June 16, 2022 and is subject to the same vesting terms as the initial option.

Additionally, Dr. Palasis and Dr. Waksal are each entitled to receive a cash bonus upon a change in control transaction in which our market capitalization equals or exceeds \$750,000,000 (each, a "Transaction Bonus"), in an amount equal to 1.0% of our market capitalization at the time of the change in control transaction, subject to the named executive officer's continued service through the completion of the change in control transaction and execution of a release of claims.

Under the employment agreements, if we terminate the employment of Dr. Palasis, Dr. Waksal or Dr. Nieman without "cause" or the executive resigns for "good reason" (each as defined below), subject to the executive's timely execution of a release of claims and continued compliance with a separate restrictive covenant agreement (described below), the executive is entitled to receive (i) base salary continuation for a period of 12 months for Dr. Palasis and Dr. Waksal, and 9 months for Dr. Nieman; (ii) in the case of Dr. Palasis and Dr. Nieman payment of any annual bonus for the prior year earned but unpaid as of the date of termination (iii) direct payment of or reimbursement for continued medical, dental or vision coverage pursuant to COBRA for up to 12 months for Dr. Palasis and Dr. Waksal, and 9 months for Dr. Nieman, less the amount each named executive officer would have had to pay to receive such coverage as an active employee based on the cost sharing levels in effect on the named executive officer's termination date, and (iv) in the case of Dr. Palasis and Dr.

Waksal, any vested and exercisable options will remain outstanding and exercisable for 15 months or 12 months, respectively, following termination.

If we terminate Dr. Palasis, Dr. Waksal, or Dr. Nieman without “cause” or the executive resigns for “good reason,” in either case, on or within three months prior to or 12 months following a change in control, then, in lieu of the severance benefits described above, subject to the executive’s timely execution of a release of claims, the executive is entitled to receive (i) an amount equal in cash equal to 1.5 times for Dr. Palasis and Dr. Waksal, one times for Dr. Nieman the sum of the named executive officer’s annual base salary plus target annual bonus for the year of termination, (ii) in the case of Dr. Palasis and Dr. Nieman, payment of any annual bonus for the prior year earned but unpaid as of the date of termination, (iii) direct payment of or reimbursement for continued medical, dental or vision coverage pursuant to COBRA for up to 18 months for Dr. Palasis and Dr. Waksal and 12 months for Dr. Nieman, less the amount each named executive officer would have had to pay to receive such coverage as an active employee based on the cost sharing levels in effect on the named executive officer’s termination date, (iv) accelerated vesting of all unvested equity or equity-based awards held by the named executive officer that vest solely based on the passage of time, with any such awards that vest based on the attainment of performance-vesting conditions being governed by the terms of the applicable award agreement, (v) in the case of Dr. Palasis and Dr. Waksal, any vested and exercisable options will remain outstanding and exercisable for 15 months or 12 months, respectively, following termination, and (vi) in the case of Dr. Palasis and Dr. Waksal, payment of the Transaction Bonus, provided that the conditions for payment are otherwise satisfied.

Each of our named executive officers has agreed to refrain from competing with us while employed and following his or her termination of employment for any reason for a period of one year and to refrain from soliciting our employees or customers while employed and following his or her termination of employment for any reason for a period of two years in the case of Dr. Palasis and one year in the case of Dr. Waksal and Dr. Nieman.

For purposes of the employment agreements, “cause” generally means the named executive officer’s refusal to substantially perform the duties associated with his or her position with our Company or to carry out the reasonable and lawful instructions of our board of directors concerning duties or actions consistent with his or her position, his or her breach of a material provision of the employment agreement which remains uncured (to the extent capable of cure) for a period of 30 days following written notice from our Company, his or her conviction, plea of no contest or nolo contendere or imposition of unadjudicated probation for any felony or crime involving moral turpitude, his or her unlawful use (including being under the influence) or possession of illegal drugs on our premises or while performing his or her duties and responsibilities under the employment agreement, or his or her commission of any act of fraud, embezzlement, misappropriation, willful misconduct, or breach of fiduciary duty against us.

For purposes of the employment agreements, “good reason” generally means, subject to certain cure rights, the named executive officer’s termination of employment due to a reduction in salary or target bonus (other than a reduction of 20% or less of the named executive officer’s base salary implemented as part of an across the board, proportionate reduction of base salaries for other members of our management team), a material decrease in authority or areas of responsibility, our Company’s breach of any one or more of the material provisions of the employment agreement, or a relocation by our Company of the named executive officer’s primary office to a location more than 50 miles from the named executive officer’s primary office on the date of the agreement.

Director Compensation

2022 Director Compensation Table

Name	Fees Earned or Paid in Cash (\$)	Option Awards (\$) ⁽¹⁾	Total (\$)
Michael Altman	40,000	25,908	65,908
C. Ann Merrifield	66,064	25,908	91,972
Edward Anderson	47,500	25,908	73,408
W. Bradford Smith	65,542	25,908	91,450
James Tobin	65,886	46,933	112,818
Konstantin Poukalov	40,000	25,908	65,908
Nancy Snyderman, M.D.	49,000	25,908	74,908

(1) Amounts reflect the full grant-date fair value of stock awards and stock options granted during 2022 computed in accordance with ASC Topic 718, rather than the amounts paid to or realized by the named individual. We provide

information regarding the assumptions used to calculate the value of all stock awards and option awards made to our directors in Note 8 to the consolidated financial statements included in this Annual Report on Form 10-K.

The table below shows the aggregate numbers of option awards (exercisable and unexercisable) held as of December 31, 2022 by each non-employee director. None of our non-employee directors held unvested stock awards as of December 31, 2022.

Name	Options Outstanding at Fiscal Year End
Michael Altman	29,000
C. Ann Merrifield	27,788
Edward Anderson	29,000
W. Bradford Smith	27,789
Konstantin Poukalov	29,000
James Tobin	14,500
Nancy Snyderman, M.D.	29,000

Non-Employee Director Compensation Program

In connection with our initial public offering, we adopted, and our stockholders approved, a compensation program for our non-employee directors under which each non-employee director receives the following amounts for their services on our board of directors:

- Upon the director's initial election or appointment to our board of directors, an option to purchase 14,500 shares of our common stock;
- If the director has served on our board of directors for at least six months as of the date of an annual meeting of stockholders and will continue to serve as a director immediately following such meeting, an option to purchase 7,250 shares of our common stock on the date of the annual meeting;
- An annual director fee of \$40,000;
- If the director serves as lead independent director or chair or on a committee of our board of directors, an additional annual fee as follows:
 - Chair of the board or lead independent director: \$25,000;
 - Chair of the audit committee: \$20,000;
 - Audit committee member other than the chair, \$7,500;
 - Chair of the compensation committee, \$15,000;
 - Compensation committee member other than the chair, \$5,000;
 - Chair of the nominating and corporate governance committee, \$8,000; and
 - Nominating and corporate governance committee member other than the chair, \$4,000.

In January 2023, upon the recommendation of the Compensation Committee following a competitive market review by Pay Governance, the Compensation Committee's independent compensation consultant, the Board approved the following changes to our non-employee director compensation program, effective January 1, 2023:

- With respect to the option award granted upon the director's initial election or appointment to our board of directors, increased the shares of our common stock subject to the option from 14,500 to 40,000 shares;

- With respect to the annual option award granted to continuing directors on the date of the annual meeting, increased the shares of our common stock subject to the option from 7,250 to 20,000 shares;
- The additional annual fee paid to a director who serves as chair or lead independent director was increased from \$25,000 to \$30,000; and
- The additional annual fee paid to members of the compensation committee (other than the chair) was increased from \$5,000 to \$5,250.

Director fees under the program are payable in arrears in four equal quarterly installments not later than the fifteenth day following the final day of each calendar quarter, provided that the amount of each payment is prorated for any portion of a quarter that a director is not serving on our board of directors and no fee was payable in respect of any period prior to the effective date of the registration statement relating to our initial public offering.

Stock options granted to our non-employee directors under the program have an exercise price equal to the fair market value of our common stock on the date of grant and expire not later than ten years after the date of grant. The stock options granted upon a director's initial election or appointment vest in 36 substantially equal monthly installments following the date of grant. The stock options granted annually to directors vest in a single installment on the earlier of the day before the next annual meeting or the first anniversary of the date of grant. In addition, all unvested stock options vest in full upon the occurrence of a change in control.

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

Equity Compensation Plan Information (As of December 31, 2022)

Plan category:	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants, and Rights	Weighted-Average Exercise Price of Outstanding Options, Warrants, and Rights	Number of Securities Available for Future Issuance Under Equity Compensation Plans (excludes securities Reflected in first column) ⁽⁵⁾
Equity compensation plans approved by security holders ⁽¹⁾	2,498,331 ⁽³⁾	\$ 8.55 ⁽⁴⁾	1,599,265
Equity compensation plans not approved by security holders ⁽²⁾	1,813,002	5.03	600,000
Total	4,311,333	\$ 7.07	2,199,265

- (1) Consists of the Lyra Therapeutics, Inc. 2020 Stock Incentive Plan, as amended (the "2020 Plan"), 2016 Equity Incentive Plan, as amended ("2016 Plan"), 2005 Equity Incentive Plan, as amended ("2005 Plan"), and 2020 Employee Stock Purchase Plan ("2020 ESPP").
- (2) Consists of the Lyra Therapeutics, Inc. 2022 Employment Inducement Award Plan (the "Inducement Award Plan"), which was adopted without stockholder approval in reliance on the exception for "inducement awards" provided by Nasdaq Rule 5635(c)(4). The material terms of the Inducement Award Plan are described in Note 8 to the consolidated financial statements in this Annual Report on Form 10-K.
- (3) Includes 124,440 shares of common stock issuable upon exercise of stock options under the 2005 Plan, 547,868 shares of common stock issuable upon exercise of stock options under the 2016 Plan, and 1,826,023 shares of common stock issuable upon exercise of stock options under the 2020 Plan.
- (4) As of December 31, 2022, the weighted-average exercise price of outstanding options under the 2005 Plan was \$22.57, the weighted-average exercise price of outstanding options under the 2016 Plan was \$2.90, and the weighted-average exercise price of outstanding options under the 2020 Plan was \$9.29.
- (5) Includes 1,319,569 shares available for future issuance under the 2020 Plan and 279,696 shares available for issuance under the 2020 ESPP. We no longer make any grants under the 2016 Plan or the 2005 Plan, and we have

not yet commenced offering periods under the 2020 ESPP. The 2020 Plan provides for an annual increase on the first day of each calendar year beginning January 1, 2021 and ending on and including January 1, 2030, equal to the lesser of (A) 4% of the aggregate number of shares of common stock outstanding on the final day of the immediately preceding calendar year, and (B) such smaller number of shares as is determined by the board of directors, provided that no more than 8,800,000 shares of our common stock may be issued pursuant to the exercise of incentive stock options. On January 1, 2022, the shares available for grant under the 2020 Plan was automatically increased by 520,287 and on January 1, 2023, the shares available for grant under the 2020 Plan was automatically increased by 1,273,106. In addition, any shares that were subject to awards outstanding under the 2005 Plan and the 2016 Plan as of the effective date of the 2020 Plan which are forfeited, expire, lapse for any reason or are settled for cash without the issuance of shares will be added to the number of shares available for issuance under the 2020 Plan. The 2020 ESPP provides for an annual increase on the first day of each calendar year beginning January 1, 2021 and ending on and including January 1, 2030, equal to the lesser of (A) 0.5% of the aggregate number of shares of common stock outstanding on the final day of the immediately preceding calendar year, and (B) such smaller number of shares as is determined by the board of directors, provided that no more than 987,500 shares of our common stock may be issued under the 2020 ESPP. On January 1, 2022, the shares available for grant under the 2020 ESPP was automatically increased by 65,035 and no increase was made on January 1, 2023.

Security Ownership of Certain Beneficial Owners and Management

The following table sets forth information with respect to the beneficial ownership of our common stock by (i) each person or group of affiliated persons known by us to beneficially own more than 5% of our common stock and (ii) each of our named executive officers, each of our directors and all of our current executive officers and directors as a group as of March 1, 2023, unless otherwise indicated.

The number of shares beneficially owned by each stockholder is determined under rules issued by the SEC. Under these rules, beneficial ownership includes any shares as to which the individual or entity has sole or shared voting power or investment power. Applicable percentage ownership is based on 31,829,774 shares of common stock outstanding as of March 1, 2023. In computing the number of shares beneficially owned by an individual or entity and the percentage ownership of that person, shares of common stock subject to options held by such person that are currently exercisable or will become exercisable within 60 days of March 1, 2023 are considered outstanding, although these shares are not considered outstanding for purposes of computing the percentage ownership of any other person.

Name of Beneficial Owner	Shares of Common Stock Beneficially Owned	Percentage
5% or Greater Stockholders		
Entities Affiliated with Perceptive Advisors, LLC ⁽¹⁾	9,146,731	28.73 %
Entities Affiliated with North Bridge Venture Partners ⁽²⁾	4,083,000	12.82 %
Entities Affiliated with Venrock ⁽³⁾	3,433,268	9.99 %
Nantahala Capital Partners and affiliates ⁽⁴⁾	2,220,830	6.98 %
Pura Vida and affiliates ⁽⁵⁾	2,157,298	6.78 %
Named Executive Officers and Directors		
Maria Palasis, Ph.D. ⁽⁶⁾	683,039	2.10 %
Harlan W. Waksal, M.D. ⁽⁷⁾	249,466	*
Richard Nieman, M.D. ⁽⁸⁾	3,471	*
Michael Altman (Perceptive) ⁽¹⁾	21,750	*
Edward T. Anderson (Northbridge) ⁽²⁾	4,223,233	*
C. Ann Merrifield ⁽⁹⁾	31,866	*
Konstantin Poukalov (Perceptive) ⁽¹⁾	21,750	*
W. Bradford Smith ⁽¹⁰⁾	20,539	*
Nancy L. Snyderman, M.D. ⁽¹¹⁾	20,358	*
James R. Tobin ⁽¹²⁾	5,236	*
All current executive officers and directors as a group (14 Persons) ⁽¹³⁾	5,475,297	17.15 %

* Less than 1% ownership as of March 1, 2023.

Unless noted otherwise, the address of all listed stockholders is 480 Arsenal Way, Watertown, MA 02472. Each of the stockholders listed has sole voting and investment power with respect to the shares beneficially owned by the stockholder unless noted otherwise, subject to community property laws where applicable.

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- (1) Pursuant to a Schedule 13D/A filed with the SEC on April 14, 2022, Perceptive Life Sciences Master Fund, Ltd. (“Perceptive Life”) reported shared voting power and shared dispositive power over 7,858,285 shares of common stock; Perceptive LS (A), LLC (“Perceptive LS”) reported shared voting power and shared dispositive power over 1,288,446 shares of common stock; Joseph Edelman reported shared voting power and shared dispositive power over 9,146,731 shares of common stock; and Perceptive Advisors LLC reported shared voting power and shared dispositive power over 9,146,731 shares of common stock. Perceptive Advisors LLC serves as the investment advisor to Perceptive Life. Perceptive LS GP, LLC is the manager of Perceptive LS. Joseph Edelman is the managing member of Perceptive Advisors LLC and the sole member of Perceptive LS GP, LLC. Michael Altman and Konstantin Poukalov, two of our directors, are Managing Directors at Perceptive Advisors LLC. Messrs. Altman and Poukalov each have sole voting power and sole dispositive power over 21,750 shares of common stock that are or will be immediately exercisable within 60 days of March 1, 2023. The address of the aforementioned individuals and entities is c/o Perceptive Advisors, LLC, 51 Astor Place, 10th Floor, New York, New York 10003.
- (2) Pursuant to a Schedule 13D/A filed with the SEC on April 22, 2022, North Bridge Venture Partners V-A, L.P. (“NBVP V-A”) reported shared voting power and shared dispositive power over 91,855,443 shares of common stock; North Bridge Venture Partners V-B, L.P. (“NBVP V-B”) reported shared voting power and shared dispositive power over 909,424 shares of common stock; and North Bridge Venture Partners VI, L.P. (“NBVP VI”) reported shared voting power and shared dispositive power over 1,318,133 shares of common stock. North Bridge Venture Management V, L.P. (“NBVM V”), is the sole General Partner of NBVP V-A and NBVP V-B and may be deemed to have voting and dispositive power with respect to the shares held by those entities. NBVM GP, LLC, the General Partner of NBVM V, may be deemed to have voting and dispositive power over the shares held of record by NBVP VA and NBVP V-B. Shared voting and dispositive power of such shares are vested in Edward T. Anderson and Richard A. D’Amore. North Bridge Venture Management VI, L.P. (“NBVM VI”), is the sole General Partner of NBVP VI. NBVM GP, LLC, the General Partner of NBVM VI, and may be deemed to have voting and dispositive power over the shares held of record by NBVP VI. Shared voting and dispositive power of such shares are vested in Edward T. Anderson and Richard A. D’Amore. Mr. Anderson, a member of our board of directors and a manager of NBVM GP, LLC, disclaims beneficial ownership over such shares, except to the extent of his pecuniary interest therein. Mr. Anderson has sole voting power and sole dispositive power over 21,750 shares of common stock that are or will be immediately exercisable within 60 days of March 1, 2023. The address of all entities affiliated with North Bridge Venture Partners is 60 William Street, Suite 350, Wellesley, MA 02481.

- (3) Pursuant to a Schedule 13G/A filed with the SEC on February 14, 2023, (i) Venrock Healthcare Capital Partners II, L.P. reported shared voting power and shared dispositive power over 148,699 shares and 403,714 shares issuable upon the exercise of immediately exercisable warrants (“Warrants”); (ii) VHCP Co-Investment Holdings II, LLC reported shared voting and shared dispositive power over 60,256 shares and 163,593 shares issuable upon the exercise of Warrants; (iii) Venrock Healthcare Capital Partners III, L.P. reported shared voting and shared dispositive power over 321,426 shares and 872,664 shares issuable upon the exercise of Warrants; (iv) VHCP Co-Investment Holdings III, LLC reported shared voting power and shared dispositive power over 32,161 shares and 87,317 shares issuable upon the exercise of Warrants; and (v) Venrock Healthcare Capital Partners EG, L.P. reported shared voting power and shared dispositive power over 361,628 shares and 981,810 shares issuable upon the exercise of Warrants. The share numbers in the preceding sentence represent the maximum number of shares of common stock issuable upon exercise of the Warrants held by the Reporting Persons as a result of the beneficial ownership provision described in the following sentence. Under the terms of the Warrants, the Company may not effect the exercise of any such Warrant, and a holder will not be entitled to exercise any portion of such Warrant, if, upon giving effect to such exercise, the aggregate number of shares of common stock beneficially owned by the holder (together with its affiliates and other attribution parties) would exceed 9.999% of the number of shares of common stock outstanding immediately after giving effect to the exercise. Accordingly, notwithstanding the number of shares of common stock listed above as being beneficially owned by the entities affiliated with Venrock, the entities affiliated with Venrock disclaim beneficial ownership of the shares of common stock issuable upon exercise of the Warrants to the extent the number of shares of common stock beneficially owned by each entity affiliated with Venrock and any other person or entities with which such entity’s beneficial ownership would be aggregated for purposes of Section 13(d) of the Exchange Act would exceed 9.999% of the total number of shares of common stock outstanding. VHCP Management II, LLC is the general partner of Venrock Healthcare Capital Partners II, L.P. and the manager of VHCP Co-Investment Holdings II, LLC. VHCP Management III, LLC is the general partner of Venrock Healthcare Capital Partners III, L.P. and the manager of VHCP Co-Investment Holdings III, LLC. VHCP Management EG, LLC is the general partner of Venrock Healthcare Capital Partners EG, L.P. Mr. Nimish Shah and Mr. Bong Koh are the voting members of VHCP Management II, LLC, VHCP Management III, LLC and VHCP Management EG, LLC. The address of the aforementioned individuals and entities is 7 Bryant Park 23rd Floor, New York, NY 10018.
- (4) Pursuant to a Schedule 13G filed with the SEC on February 14, 2023, Nantahala Capital Management, LLC (“Nantahala”) may be deemed to be the beneficial owner of 2,220,830 shares held by funds and separately managed accounts under its control, and as the managing members of Nantahala, each of Wilmot B. Harkey and Daniel Mack may be deemed to be a beneficial owner of those shares. The address of Nantahala and its affiliates is 130 Main Street, 2nd Floor, New Canaan, CT 06840.
- (5) Pursuant to a Schedule 13G/A filed with the SEC on February 14, 2023, Pura Vida Investments, LLC (“PVI”) and Efreem Kamen reported shared voting power and shared dispositive power over 2,157,298 shares. The shares reported are owned by Pura Vida Master Fund, Ltd. (the “Pura Vida Master Fund”), Pura Vida X Fund LP (the “Pura Vida X Fund”) and certain separately managed accounts (the “Managed Accounts,” collectively the “Client Accounts”). PVI serves as the investment manager or sub-adviser to the Client Accounts. Efreem Kamen serves as the Managing Member of PVI. Efreem Kamen serves as the managing member of PVI. By virtue of these relationships, the Reporting Persons may be deemed to have shared voting and dispositive power with respect to the shares owned directly by the Pura Vida Master Fund and the Managed Accounts. This report shall not be deemed an admission that the Reporting Persons are beneficial owners of the shares for purposes of Section 13 of the Securities Exchange Act of 1934, as amended, or for any other purpose. Each of the Reporting Persons disclaims beneficial ownership of the shares reported herein except to the extent of the Reporting Persons pecuniary interest therein.
- (6) Consists of options to purchase 683,039 shares of common stock that are or will be immediately exercisable within 60 days of March 1, 2023.
- (7) Consists of 236,966 shares of common stock and 12,500 options to purchase shares of common stock that are or will be immediately exercisable within 60 days of March 1, 2023.
- (8) Consists of options to purchase 3,471 shares of common stock that are or will be immediately exercisable within 60 days of March 1, 2023.
- (9) Consists of 11,328 shares of common stock and 20,538 options to purchase shares of common stock that are or will be immediately exercisable within 60 days of March 1, 2023.
- (10) Consists of options to purchase 20,539 shares of common stock that are or will be immediately exercisable within 60 days of March 1, 2023.

- (11) Consists of 1,025 shares of common stock and 19,333 options to purchase shares of common stock that are or will be immediately exercisable within 60 days of March 1, 2023.
- (12) Consists of options to purchase 5,326 shares of common stock that are or will be immediately exercisable within 60 days of March 1, 2023.
- (13) Consists of 4,450,802 shares of common stock and 1,024,495 options to purchase shares of common stock that are or will be immediately exercisable within 60 days of March 1, 2023.

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

Policies and Procedures for Approval of Related Person Transactions

Our board of directors recognizes the fact that transactions with related persons present a heightened risk of conflicts of interests (or the perception thereof) and has adopted a written related person transactions policy to comply with Section 404 of the Exchange Act. Under the policy, our finance team is primarily responsible for developing and implementing processes and procedures to obtain information regarding related persons with respect to potential related person transactions and then determining, based on the facts and circumstances, whether such potential related person transactions do, in fact, constitute related person transactions requiring compliance with the policy. In addition, any potential related person transaction that is proposed to be entered into by the Company must be reported to the Company's Chief Financial Officer, by both the related person and the person at the Company responsible for such potential related person transaction.

If our finance team determines that a transaction or relationship is a related person transaction requiring compliance with the policy, our Chief Financial Officer is required to present to the Audit Committee all relevant facts and circumstances relating to the related person transaction. Our Audit Committee must review the relevant facts and circumstances of each related person transaction, including if the transaction is on terms comparable to those that could be obtained in arm's length dealings with an unrelated third party and the extent of the related person's interest in the transaction, take into account the conflicts of interest and corporate opportunity provisions of our Code of Business Conduct and Ethics, and either approve or disapprove the related person transaction. If advance Audit Committee approval of a related person transaction requiring the Audit Committee's approval is not feasible, then the transaction may be preliminarily entered into by management upon prior approval of the transaction by the chair of the Audit Committee subject to ratification of the transaction by the Audit Committee at the Audit Committee's next regularly scheduled meeting; provided, that if ratification is not forthcoming, management will make all reasonable efforts to cancel or annul the transaction. If a transaction was not initially recognized as a related person transaction, then upon such recognition the transaction will be presented to the Audit Committee for ratification at the Audit Committee's next regularly scheduled meeting; provided, that if ratification is not forthcoming, management will make all reasonable efforts to cancel or annul the transaction.

Our management will update the Audit Committee as to any material changes to any approved or ratified related person transaction and will provide a status report at least annually of all then current related person transactions. No director may participate in approval of a related person transaction for which he or she is a related person.

LianBio License Agreement

Entities affiliated with Perceptive Advisors, LLC are shareholders of both us and LianBio. Additionally, Konstantin Poukalov and Michael Altman are each a Managing Director at Perceptive Advisors, LLC and Mr. Poukalov is also the Executive Chairman of LianBio's board of directors. See "Management's Discussion and Analysis—Financial Operations Overview" for a description of the LianBio License Agreement.

Investor Rights Agreement

On April 7, 2022, we entered into a Ninth Amended and Restated Investor Rights Agreement with the holders of our then-outstanding preferred stock, including Perceptive Advisors, LLC and, North Bridge Venture Partners, which are 5% or greater holders of our common stock and entities with which certain of our directors are related. The agreement provides for certain rights relating to the registration of such holders' common stock.

Indemnification Agreements

We have entered into indemnification agreements with each of our directors and executive officers. These agreements, among other things, require us to indemnify each director (and in certain cases their related venture capital funds) and executive officer to the fullest extent permitted by Delaware law, including indemnification of expenses such as attorneys' fees, judgments, fines and settlement amounts incurred by the director or executive officer in any action or proceeding, including any action or proceeding by or in right of us, arising out of the person's services as a director or executive officer.

Independence of the Board of Directors

Our board of directors has determined that each of Michael Altman, Edward Anderson, C. Ann Merrifield, Konstantin Poukalov, W. Bradford Smith, Nancy Snyderman, M.D., FACS and James R. Tobin qualify as "independent" in accordance with the listing requirements of Nasdaq. The Nasdaq independence definition includes a series of objective tests, including that the director is not, and has not been for at least three years, one of our employees and that neither the director nor any of his family members has engaged in various types of business dealings with us. In addition, as required by Nasdaq rules, our board of directors has made a subjective determination as to each independent director that no relationships exist, which, in the opinion of our board of directors, would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. In making these determinations, our board of directors reviewed and discussed information provided by the directors and us with regard to each director's business and personal activities and relationships as they may relate to us and our management, including that Mr. Altman, Mr. Anderson and Mr. Poukalov are affiliated with certain of our significant stockholders. Harlan W. Waksal, M.D. and Maria Palasis, Ph.D. are not independent. There are no family relationships among any of our directors or executive officers.

Item 14. Principal Accountant Fees and Services.

The following table summarizes the fees of BDO USA, LLP, our independent registered public accounting firm, billed to us for each of the last two fiscal years.

Fee Category	2022	2021
Audit Fees ⁽¹⁾	\$ 396,977	\$ 297,607
Audit-Related Fees ⁽²⁾	—	—
Tax Fees ⁽³⁾	12,775	10,900
All Other Fees ⁽⁴⁾	—	—
Total Fees	\$ 409,752	\$ 308,507

- (1) For 2022, audit fees consist of fees for the audit of our financial statements, the review of the interim financial statements included in our quarterly reports on Form 10-Q, and other professional services provided in connection with statutory and regulatory filings or engagements. For 2021, audit fees also included fees for services incurred in connection with our Registration Statement on Form S-3.
- (2) For 2022 and 2021, audit-related fees consist of fees reasonably related to the performance of the audit and the review of our financial statements and which are not reported under “Audit Fees.”
- (3) For 2022 and 2021, tax fees consisted of fees for tax-related services, including tax compliance and tax advice.
- (4) All other fees consist of fees for all other services that are not reported above.

Pre-Approval Policies and Procedures

The Audit Committee has adopted a policy (the “Pre-Approval Policy”) that sets forth the procedures and conditions pursuant to which audit and non-audit services proposed to be performed by the independent auditor may be pre-approved. The Pre-Approval Policy generally provides that we will not engage BDO USA, LLP to render any audit, audit-related, tax or permissible non-audit service unless the service is either (i) explicitly approved by the Audit Committee (“specific pre-approval”) or (ii) entered into pursuant to the pre-approval policies and procedures described in the Pre-Approval Policy (“general pre-approval”). Unless a type of service to be provided by BDO USA, LLP has received general pre-approval under the Pre-Approval Policy, it requires specific pre-approval by the Audit Committee or by a designated member of the Audit Committee to whom the committee has delegated the authority to grant pre-approvals. Any proposed services exceeding pre-approved cost levels or budgeted amounts will also require specific pre-approval. For both types of pre-approval, the Audit Committee will consider whether such services are consistent with the SEC’s rules on auditor independence. The Audit Committee will also consider whether the independent auditor is best positioned to provide the most effective and efficient service, for reasons such as its familiarity with the Company’s business, people, culture, accounting systems, risk profile and other factors, and whether the service might enhance the Company’s ability to manage or control risk or improve audit quality. All such factors will be considered as a whole, and no one factor should necessarily be determinative. The Audit Committee periodically reviews and generally pre-approves any services (and related fee levels or budgeted amounts) that may be provided by BDO USA, LLP without first obtaining specific pre-approvals from the Audit Committee or the Chair of the Audit Committee. The Audit Committee may revise the list of general pre-approved services from time to time, based on subsequent determinations.

PART IV

Item 15. Exhibits and Financial Statement Schedules.

(a) Documents filed as part of this report:

(1) Financial Statements.

The following documents are included on pages F-1 through F-26 attached hereto and are filed as part of this Annual Report on Form 10-K.

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(2) Financial Statement Schedules.

No financial statement schedules have been submitted because they are not required or are not applicable or because the information required is included in the financial statements or the notes thereto.

(3) List of Exhibits.

Exhibit Number	Description of Exhibit	Form or Schedule	Exhibit No.	Filing Date with SEC	SEC File Number
3.1	Restated Certificate of Incorporation of the Registrant	8-K	3.1	May 5, 2020	001-39273
3.2	Amended and Restated Bylaws of the Registrant	8-K	3.2	May 5, 2020	001-39273
4.1	Ninth Amended and Restated Investor Rights Agreement, dated as of April 7, 2022, by and among Lyra Therapeutics, Inc. and the Investors named therein	8-K	4.1	April 13, 2022	001-39273
4.2	Specimen Stock Certificate evidencing the shares of Common Stock of the Registrant	S-1/A	4.2	April 27, 2020	333-236962
4.3	Form of Warrants to Purchase Common Stock, dated various dates, issued by the Registrant to various investors, together with a schedule of warrants and warrant holders	S-1/A	4.3	April 27, 2020	333-236962
4.4	Form of Common Stock Purchase Warrant, together with a schedule of Warrants, each dated April 12, 2022, issued by Lyra Therapeutics, Inc. to the Investors set forth on such schedule	8-K	4.2	April 13, 2022	001-39273
4.5*	Description of Securities				
10.1#	2005 Equity Incentive Plan, as amended, and form of agreements thereunder	S-1	10.1	March 6, 2020	333-236962
10.2#	2016 Equity Incentive Plan, as amended, and form of agreements thereunder	S-1	10.2	March 6, 2020	333-236962
10.3#	2020 Incentive Award Plan and form of agreements thereunder	S-1/A	10.3	April 27, 2020	333-236962

Exhibit Number	Description of Exhibit	Form or Schedule	Exhibit No.	Filing Date with SEC	SEC File Number
10.4#	2022 Inducement Award Plan and form of agreements thereunder	8-K	10.5	February 18, 2022	001-39273
10.4.1#	Lyra Therapeutics, Inc. 2022 Inducement Award Plan Performance Stock Option Grant Notice and Performance Stock Option Agreement issued to Harlan Waksal, M.D. on February 16, 2022	8-K	10.4	February 18, 2022	001-39273
10.4.2#	Lyra Therapeutics, Inc. 2020 Incentive Award Plan Performance Stock Option Grant Notice and Performance Stock Option Agreement issued to Maria Palasis, Ph.D. on February 16, 2022	8-K	10.3	February 18, 2022	001-39273
10.4.3#	Amendment No. 1 to Lyra Therapeutics, Inc. 2022 Inducement Award Plan	10-Q	10.1	August 9, 2022	001-39273
10.4.4#	Amendment No. 2 to Lyra Therapeutics, Inc. 2022 Inducement Award Plan	10-Q	10.2	August 9, 2022	001-39273
10.4.5#	Amendment No. 3 to Lyra Therapeutics, Inc. 2022 Inducement Award Plan	10-Q	10.2	November 8, 2022	001-39273
10.4.6#*	Lyra Therapeutics, Inc. 2022 Employment Inducement Award Plan as Amended and Restated, Effective December 12, 2022				
10.5#	Non-Employee Director Compensation Program	S-1/A	10.4	April 27, 2020	333-236962
10.6#	2020 Employee Stock Purchase Plan	S-1/A	10.5	April 27, 2020	333-236962
10.7#	Form of Indemnification Agreement for directors and officers of the Registrant	S-1/A	10.6	April 27, 2020	333-236962
10.8	Lease Agreement between the Registrant and ARE-480 Arsenal St, LLC, dated August 14, 2007, as amended	S-1	10.7	March 6, 2020	333-236962
10.9#	Employment Agreement between the Registrant and Maria Palasis, Ph.D., dated as of April 27, 2020	S-1/A	10.8	April 27, 2020	333-236962
10.10+	License and Collaboration Agreement dated May 31, 2021, by and between the Registrant and LianBio Inflammatory Limited and LianBio.	10-Q	10.1	August 9, 2021	001-39273
10.11+	First Amendment to License and Collaboration Agreement, dated September 26, 2022, between Registrant and LianBio Inflammatory Limited and LianBio	10-Q	10.1	November 8, 2022	001-39273
10.12#	Employment Agreement between the Registrant and Jason Cavalier dated as of September 13, 2021	10-Q	10.2	November 9, 2021	001-39273
10.13#	Employment Agreement between the Registrant and Corinne Noyes dated as of April 27, 2020	10-K	10.14	March 9, 2022	001-39273
10.14#	Employment Agreement between the Registrant and Robert Richard dated as of June 20, 2020	10-K	10.16	March 9, 2022	001-39273
10.15#*	Employment Agreement between the Registrant and John Bishop dated as of February 2, 2023				
10.16#	First Amendment to the Employment Agreement between the Registrant and Maria Palasis, Ph.D. dated as of February 16, 2022	8-K	10.1	February 18, 2022	001-39273

Exhibit Number	Description of Exhibit	Form or Schedule	Exhibit No.	Filing Date with SEC	SEC File Number
10.17#	Employment Agreement between the Registrant and Harlan Waksal, M.D. dated as of February 16, 2022	8-K	10.2	February 18, 2022	001-39273
10.18#	Employment Agreement by and between the Registrant and Richard Nieman, M.D. dated as of June 30, 2022	10-Q	10.3	August 9, 2022	001-39273
10.19	Securities Purchase Agreement, dated as of April 7, 2022, by and among Lyra Therapeutics, Inc. and the Investors named therein	8-K	10.1	April 13, 2022	001-39273
10.20	Registration Rights Agreement, dated as of April 7, 2022, by and among Lyra Therapeutics, Inc. and the Investors named therein	8-K	10.2	April 13, 2022	001-39273
10.21	Sixth Amendment to Lease, dated November 14, 2022, by and between Lyra Therapeutics, Inc. and ARE-480 Arsenal Street, LLC	8-K	10.1	November 16, 2022	001-39273
10.22	Lease Agreement, dated May 31, 2022, between the Registrant, as the tenant, and BXP Waltham Woods LLC, as the landlord	10-Q	4.2	August 9, 2022	001-39273
10.23	First Amendment to Lease Agreement, dated July 20, 2022, between Registrant, as the tenant, and BXP Waltham Woods LLC, as the landlord	10-Q	4.3	August 9, 2022	001-39273
10.24*	Second Amendment to Lease Agreement (Notice and Acknowledgement thereof), dated March 3, 2023, between Registrant, as the tenant, and BXP Waltham woods LLC, as the landlord				
21.1	Subsidiaries of the Registrant	S-1	21.1	March 6, 2020	333-236962
23.1*	Consent of BDO USA, LLP Independent Registered Public Accounting Firm				
31.1*	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				
31.2*	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				
32.1**	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002				
32.2**	Certification of 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 – this instance document appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document				
101.SCH	Inline XBRL Taxonomy Extension Schema Document				

Exhibit Number	Description of Exhibit	Form or Schedule	Exhibit No.	Filing Date with SEC	SEC File Number
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 (embedded within the Inline XBRL document)				

Indicates management contract or compensatory plan.

* Filed herewith.

** Furnished herewith.

+ Certain portions of this exhibit (indicated by asterisks) have been redacted in compliance with Regulation S-K Item 601(b)(10)(iv).

Item 16. Form 10-K Summary

None.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders
Lyra Therapeutics, Inc.
Watertown, MA

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Lyra Therapeutics, Inc. and subsidiary (the “Company”) as of December 31, 2022 and 2021, the related consolidated statements of operations and comprehensive loss, stockholders’ equity, and cash flows for the years then ended, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (“PCAOB”) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. 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 consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ BDO USA, LLP

We have served as the Company’s auditor since 2013.
Boston, Massachusetts
March 29, 2023

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

	December 31,	
	2022	2021
Assets		
Current assets:		
Cash and cash equivalents	\$ 32,550	\$ 45,747
Short-term investments	65,344	—
Prepaid expenses and other current assets	2,935	2,171
Total current assets	100,829	47,918
Property and equipment, net	2,243	4,503
Operating lease right-of-use assets	2,223	1,355
Restricted cash	1,392	329
Other assets	3,281	762
Total assets	<u>\$ 109,968</u>	<u>\$ 54,867</u>
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	\$ 2,616	\$ 3,125
Accrued expenses and other current liabilities	9,030	4,258
Operating lease liabilities	1,549	1,074
Deferred revenue	1,275	9,789
Total current liabilities	14,470	18,246
Operating lease liabilities, net of current portion	667	379
Deferred revenue, net of current portion	14,077	1,926
Total liabilities	29,214	20,551
Commitments and contingencies (Note 11)		
Stockholders' equity:		
Preferred stock, \$0.001 par value; 10,000,000 shares authorized at December 31, 2022 and 2021; no shares issued and outstanding at December 31, 2022 and 2021	—	—
Common stock, \$0.001 par value; 200,000,000 shares authorized at December 31, 2022 and 2021; 31,827,659 and 13,007,178 shares issued and outstanding at December 31, 2022 and 2021, respectively	32	13
Additional paid-in capital	329,387	227,700
Accumulated other comprehensive income, net of tax	10	—
Accumulated deficit	(248,675)	(193,397)
Total stockholders' equity	<u>80,754</u>	<u>34,316</u>
Total liabilities and stock and stockholders' equity	<u>\$ 109,968</u>	<u>\$ 54,867</u>

See accompanying notes to consolidated financial statements.

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

	Year Ended December 31,	
	2022	2021
Collaboration revenue	\$ 1,363	\$ 285
Operating expenses:		
Research and development	38,797	29,694
General and administrative	17,556	14,206
Loss on impairment of long-lived assets	1,316	—
Total operating expenses	57,669	43,900
Loss from operations	(56,306)	(43,615)
Other income:		
Interest income	1,041	102
Total other income	1,041	102
Loss before income tax expense	(55,265)	(43,513)
Income tax expense	(13)	—
Net loss	(55,278)	(43,513)
Other comprehensive income:		
Unrealized holding gain on short-term investments, net of tax	10	—
Comprehensive loss	\$ (55,268)	\$ (43,513)
Net loss per share —basic and diluted	\$ (1.83)	\$ (3.35)
Weighted-average common shares outstanding—basic and diluted	30,235,689	12,986,101

See accompanying notes to consolidated financial statements.

LYRA THERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands, except share amounts)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income, net of tax	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance at December 31, 2020	12,932,377	\$ 13	\$ 224,363	—	\$ (149,884)	\$ 74,492
Vesting of restricted common stock	2,600	—	—	—	—	—
Exercise of common stock options	72,201	—	604	—	—	604
Stock-based compensation	—	—	2,733	—	—	2,733
Net loss	—	—	—	—	(43,513)	(43,513)
Balance at December 31, 2021	13,007,178	13	227,700	—	(193,397)	34,316
Exercise of common stock options	2,718	—	8	—	—	8
Issuance of common stock and pre-funded warrants, net of issuance costs of \$4,244	18,815,159	19	96,232	—	—	96,251
Issuance of common stock upon RSU vesting	2,604	—	—	—	—	—
Unrealized gain on available-for-sale securities	—	—	—	10	—	10
Stock-based compensation	—	—	5,447	—	—	5,447
Net loss	—	—	—	—	(55,278)	(55,278)
Balance at December 31, 2022	<u>31,827,659</u>	<u>\$ 32</u>	<u>\$ 329,387</u>	<u>\$ 10</u>	<u>\$ (248,675)</u>	<u>\$ 80,754</u>

See accompanying notes to consolidated financial statements.

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

	Year Ended December 31,	
	2022	2021
Cash flows from operating activities:		
Net loss	\$ (55,278)	\$ (43,513)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	5,447	2,770
Depreciation expense	1,067	1,001
Loss on impairment of long-lived assets	1,316	—
Net amortization of premium on short-term investments	(492)	—
Changes in assets and liabilities:		
Prepaid expenses and other current assets	(764)	(847)
Operating lease right-of-use assets	(868)	946
Other assets	(574)	(500)
Accounts payable	(2,411)	2,350
Accrued expenses and other current liabilities	4,772	1,244
Operating lease liabilities	763	(986)
Deferred revenue	3,637	11,715
Net cash used in operating activities	(43,385)	(25,820)
Cash flows from investing activities:		
Purchases of property and equipment	(164)	(3,385)
Purchase of investments	(64,842)	—
Net cash used in investing activities	(65,006)	(3,385)
Cash flows from financing activities:		
Proceeds from sale of common stock and pre-funded warrants	100,495	—
Payment of deferred offering expenses	(4,246)	(245)
Proceeds from exercise of stock options	8	604
Net cash provided by financing activities	96,257	359
Net decrease in cash, cash equivalents and restricted cash	(12,134)	(28,846)
Cash and cash equivalents and restricted cash, beginning of period	46,076	74,922
Cash and cash equivalents and restricted cash, end of period	\$ 33,942	\$ 46,076
Supplemental disclosure of non-cash financing and investing activities:		
Property and equipment purchases included in accounts payable	\$ —	\$ 41
Other assets included in accounts payable and accrued expenses	\$ 1,960	\$ 15
Modification of lease agreement	\$ 1,928	\$ —
Deferred offering costs included in accounts payable and accrued expense	\$ —	\$ 2

See accompanying notes to consolidated financial statements.

LYRA THERAPEUTICS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Organization and Basis of Presentation

Lyra Therapeutics, Inc. (the “Company”) is a clinical-stage biotechnology company focused on the development and commercialization of therapies for the localized treatment of patients with chronic rhinosinusitis, or CRS. The Company’s proprietary technology is designed to consistently deliver medicines directly to the affected tissue for sustained periods with a single administration. The Company’s product candidates, LYR-210 and LYR-220, are bioresorbable polymeric matrices designed to be administered in a brief, non-invasive, in-office procedure and intended to deliver up to six months of continuous anti-inflammatory drug therapy to the sinonasal passages for the treatment of CRS. The Company was incorporated as a Delaware corporation on November 21, 2005 and is located in Watertown, Massachusetts. On July 16, 2018, the Company formerly changed its name from 480 Biomedical, Inc. to Lyra Therapeutics, Inc.

The Company is subject to risks common to companies in the therapeutics and pharmaceutical industry, including but not limited to, risks of failure of preclinical studies and clinical trials, the need to obtain marketing approval for any drug product candidate that it may identify and develop, the need to successfully commercialize and gain market acceptance of its product candidates, dependence on key personnel, protection of proprietary technology, compliance with government regulations, development by competitors of technological innovations, reliance on third party manufacturers, ability to transition from pilot-scale manufacturing to large-scale production of products and the need to obtain adequate additional financing to fund the development of its product candidates.

From inception through December 31, 2022, the Company has raised an aggregate of \$350.4 million to fund its operations primarily from the equity financings, government grants and its License and Collaboration Agreement with LianBio discussed in Note 9. The Company has incurred recurring net losses since inception and had net losses of approximately \$55.3 million and \$43.5 million for the years ended December 31, 2022 and 2021, respectively. In addition, the Company has an accumulated deficit of approximately \$248.7 million at December 31, 2022. The Company expects to continue to generate operating losses for the foreseeable future. At December 31, 2022, the Company had approximately \$32.6 million of cash and cash equivalents and \$65.3 million of short-term investments.

The Company believes that its cash, cash equivalents and short-term investments as of December 31, 2022 will be sufficient to fund the Company’s operating plan for a period of at least one year from the issuance date of the consolidated financial statements. The Company will need additional financing to support its continuing operations and pursue its growth strategy. Until such time as the Company can generate significant revenue from product sales, if ever, it expects to finance its operations through a combination of equity or debt financings, collaboration agreements, strategic alliances and licensing arrangements. The Company may be unable to raise additional funds or enter into such other agreements when needed on favorable terms or at all. The inability to obtain funding as and when needed would have a negative impact on the Company’s financial condition and ability to pursue its business strategies. If the Company is unable to obtain funding when needed, the Company could be forced to delay, reduce or eliminate some or all of its research and development programs, product portfolio expansion or commercialization efforts, which could adversely affect its business prospects, or the Company may be unable to continue operations. The Company will need to generate significant revenue to achieve profitability, and it may never do so.

Basis of Presentation

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (“GAAP”). Any reference in these notes to applicable guidance is meant to refer to the authoritative United States generally accepted accounting principles as found in the Accounting Standard Codification (“ASC”) and Accounting Standards Updates (“ASU”) of the Financial Accounting Standards Board (“FASB”).

2. Summary of Significant Accounting Policies

Principles of Consolidation

The consolidated financial statements include the accounts of Lyra Therapeutics, Inc. and its wholly owned subsidiary Lyra Therapeutics Security Corporation. All intercompany transactions and balances have been eliminated.

The accompanying consolidated financial statements reflect the application of certain significant accounting policies as described in this note and elsewhere in the accompanying consolidated financial statements and notes.

Use of Estimates

The preparation of the Company’s consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, expenses and related disclosure of contingent assets and liabilities at the date of the consolidated financial statements and reported amounts of expenses during the reporting period. On an ongoing basis, the Company’s management evaluates its estimates, which include but are not limited to management’s judgments of revenue recognition, operating lease right-of-use assets, operating lease liabilities, accrued expenses, valuation of share-based awards and realization of its deferred tax assets. Due to the uncertainty inherent in such estimates, actual results may differ from these estimates.

Segment Information

Operating segments are defined as components of an enterprise about which separate discrete information is available for evaluation by the chief operating decision-maker in deciding how to allocate resources and assess performance. The Company and the Company’s chief operating decision-maker, the Company’s chief executive officer, views the Company’s operations and manages its business as a single operating segment, which is the business of developing targeted medicines to address ears, nose, and throat, or ENT diseases.

Comprehensive Loss

Comprehensive loss includes net loss as well as other changes in stockholders’ equity that result from transactions and economic events other than those with stockholders. For the year ended December 31, 2022, other comprehensive income consisted of unrealized gains and losses, net of taxes from its short-term investments.

As the Company did not have any element of other comprehensive income or loss during the year ended December 31, 2021, its comprehensive loss is equal to its net loss for the year ended December 31, 2021.

Cash and Cash Equivalents

The Company considers all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents. Cash and cash equivalents include cash held in banks, amounts held in money market funds, and highly liquid debt securities. Cash equivalents are stated at cost, which approximates market value.

Restricted Cash

The Company had restricted cash of approximately \$1.4 million and \$0.3 million as of December 31, 2022 and 2021, respectively. These balances were held unsecured as of December 31, 2022 at the Company’s financial institution to secure the Company’s letters of credit for its facility leases.

The Company’s statements of cash flows include restricted cash with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on such statements. A reconciliation of the cash, cash equivalents, and restricted cash reported within the balance sheet that sum to the total of the same amounts shown in the statement of cash flows is as follows:

	Year Ended December 31,	
	2022	2021
Cash and cash equivalents	\$ 32,550	\$ 45,747
Restricted Cash	1,392	329
Total	\$ 33,942	\$ 46,076

Short-term Investments

Investments in marketable securities are classified as available-for-sale. Available-for-sale securities are measured and reported at fair value using quoted prices in active markets for similar securities. Unrealized gains and losses, net of taxes on available-for-sale securities are reported as a separate component of stockholders' equity. Premiums or discounts from par value are amortized to investment income over the life of the underlying investment. All of the Company's available-for-sale securities are available to the Company for use in current operations. As a result, the Company classified all of these securities as current assets even though the stated maturity of some individual securities may be one year or more beyond the balance sheet date.

The cost of securities sold is determined on a specific identification basis, and realized gains and losses are included in other income (expense) within the consolidated statements of operations and comprehensive loss. If any adjustment is required to reflect a decline in the value of the investment that the Company considers to be "other than temporary", the Company recognizes a charge to the consolidated statement of operations and comprehensive loss. No such adjustments were necessary during the periods presented.

Other Assets

The Company includes certain items within other assets on the consolidated balance sheets. The Company had other assets of approximately \$3.3 million and \$0.7 million as of December 31, 2022 and 2021, respectively. Other assets are primarily comprised of long-term deposits for our clinical trial agreements as well as prepaid rent related to our new facility lease in Waltham which will be reclassified to a right of use asset upon possession of the space.

Concentrations of Credit Risk and Off-Balance Sheet Risk

Financial instruments that potentially expose the Company to concentrations of credit risk consist primarily of cash and cash equivalents and short-term investments. The Company maintains all its cash and cash equivalents, and short-term investments at two accredited financial institutions, in amounts that exceed federally insured limits.

The Company has no significant off-balance sheet risk such as foreign exchange contracts, option contracts, or other foreign exchange hedging arrangements.

Significant Suppliers

The Company is dependent on third-party manufacturers to supply products for research and development activities in its programs. In particular, the Company relies and expects to continue to rely on a small number of manufacturers to supply it with its requirements for the drug product and associated applicator related to these programs. These programs could be adversely affected by a significant interruption in the supply of the materials required to manufacture the drug product and associated applicator.

Fair Value of Financial Instruments

Fair value is defined as the price that would be received upon sale of an asset or paid to transfer a liability between market participants at a measurement date. ASC Topic 820, *Fair Value Measurements* ("ASC 820"), establishes a three-level valuation hierarchy for instruments measured at fair value that prioritizes the inputs used to measure fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the observable inputs be used when available. Observable inputs are inputs that market participants would use in pricing the asset or liability based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company's assumptions about the inputs that market participants would use in pricing the asset or liability and are developed based on the best information available in the circumstances. The fair value hierarchy applies only to the valuation inputs used in determining the reported or disclosed fair value of the financial instruments and is not a measure of the investment credit quality. The three levels of the fair value hierarchy established by ASC 820 in order of priority are as follows:

Level 1 -Quoted prices in active markets for identical assets or liabilities that the Company has the ability to access at the measurement date.

Level 2 -Inputs other than quoted prices included within Level 1 that are either directly or indirectly observable, such as quoted market prices, interest rates and yield curves.

Level 3 -Unobservable inputs that are supported by little or no market activity and that are significant to determining the fair value of the assets or liabilities, including pricing models, discounted cash flow methodologies and similar techniques.

To the extent that the valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. Accordingly, the degree of judgment exercised by the Company in determining fair value is greatest for instruments categorized in Level 3. A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement.

An entity may elect to measure many financial instruments and certain other items at fair value at specified election dates. Subsequent unrealized gains and losses on items for which the fair value option has been elected will be reported in net loss. The Company did not elect to measure any financial instruments or other items at fair value.

Property and Equipment

Property and equipment are stated at cost, less accumulated depreciation. Depreciation expense is recognized using the straight-line method over the estimated useful life of each asset as follows:

	Estimated Useful Life
Laboratory equipment	5 years
Computer software and equipment	3 years
Office furniture and fixtures	7 years
Leasehold improvements	Shorter of useful life or remaining term of related lease

Upon retirement or sale, the cost of the assets disposed of and the related accumulated depreciation are eliminated from the balance sheet and related gains or losses are reflected in the consolidated statement of operations and comprehensive loss. Repairs and maintenance that do not improve or extend the lives of the respective assets are expensed as incurred, while costs of major additions and betterments are capitalized.

Impairment of Long-Lived Assets

Long-lived assets consist of property and equipment. The Company continually evaluates long-lived assets for potential impairment when events or changes in circumstances indicate the carrying value of the assets may not be recoverable. Recoverability is measured by comparing the book values of the assets to the expected future net undiscounted cash flows that the assets are expected to generate. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the book values of the assets exceed their fair value. The Company recorded impairment losses of \$1.3 million during the year ended December 31, 2022 and \$0 for the year ended December 31, 2021. In October of 2022, the Company terminated an agreement with a contract manufacturer. The Company has funded certain leasehold improvements at the contract manufacturing organizations or CMO's facility that the Company does not anticipate receiving the benefit of in the future and has accordingly impaired the respective assets.

Leases

Under ASC 842, *Leases*, the Company determines if an arrangement is or contains a lease at inception. For leases with a term of 12 months or less, the Company does not recognize a right-of-use asset or lease liability. The Company's operating leases are recognized on its consolidated balance sheets as other noncurrent assets, other current liabilities and other noncurrent liabilities. The Company does not have any finance leases.

Right-of-use assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating lease right-of-use assets and liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. As the Company's leases typically do not provide an implicit rate, the Company uses an estimate of its incremental borrowing rate based on the information available at the lease commencement date in determining the present value of lease payments. Operating lease right-of-use assets also include the effect of any lease payments made prior to commencement and excludes lease incentives. The lease terms may include options to extend or terminate the lease when it is

reasonably certain that the Company will exercise that option. Lease expense is recognized on a straight-line basis over the lease term.

The Company separates lease and non-lease components when determining which lease payments to include in the calculation of its lease assets and liabilities. Variable lease payments are expensed as incurred. If a lease includes an option to extend or terminate the lease, the Company reflects the option in the lease term if it is reasonably certain it will exercise the option.

Revenue Recognition

Under ASC Topic 606, *Revenue from Contracts with Customers* (“ASC 606”), an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration that the entity expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that an entity determines are within the scope of ASC 606, the entity performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price, including variable consideration, if any; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. The Company only applies the five-step model to contracts when it is probable that the entity will collect the consideration to which it is entitled in exchange for the goods or services it transfers to the customer.

Once a contract is determined to be within the scope of ASC 606, the Company assesses the goods or services promised within each contract and determines those that are performance obligations. Arrangements that include rights to additional goods or services that are exercisable at a customer’s discretion are generally considered options. The Company assesses if these options provide a material right to the customer and if so, they are considered performance obligations. The identification of material rights requires judgments related to the determination of the value of the underlying good or service relative to the option exercise price. The exercise of a material right is accounted for as a contract modification for accounting purposes.

The Company assesses whether each promised good or service is distinct for the purpose of identifying the performance obligations in the contract. This assessment involves subjective determinations and requires management to make judgments about the individual promised goods or services and whether such are separable from the other aspects of the contractual relationship. Promised goods and services are considered distinct provided that: (i) the customer can benefit from the good or service either on its own or together with other resources that are readily available to the customer (that is, the good or service is capable of being distinct) and (ii) the entity’s promise to transfer the good or service to the customer is separately identifiable from other promises in the contract (that is, the promise to transfer the good or service is distinct within the context of the contract). In assessing whether a promised good or service is distinct, the Company considers factors such as the research, manufacturing and commercialization capabilities of the collaboration partner and the availability of the associated expertise in the general marketplace. The Company also considers the intended benefit of the contract in assessing whether a promised good or service is separately identifiable from other promises in the contract. If a promised good or service is not distinct, an entity is required to combine that good or service with other promised goods or services until it identifies a bundle of goods or services that is distinct.

The transaction price is then determined and allocated to the identified performance obligations in proportion to their standalone selling prices (“SSP”) on a relative SSP basis. SSP is determined at contract inception and is not updated to reflect changes between contract inception and when the performance obligations are satisfied. Determining the SSP for performance obligations requires significant judgment. In developing the SSP for a performance obligation, the Company considers applicable market conditions and relevant entity-specific factors, including factors that were contemplated in negotiating the agreement with the customer and estimated costs. The Company validates the SSP for performance obligations by evaluating whether changes in the key assumptions used to determine the SSP will have a significant effect on the allocation of arrangement consideration between multiple performance obligations.

If the consideration promised in a contract includes a variable amount, the Company estimates the amount of consideration to which it will be entitled in exchange for transferring the promised goods or services to a customer. The Company determines the amount of variable consideration by using the expected value method or the most likely amount method. The Company includes the unconstrained amount of estimated variable consideration in the transaction price. The amount included in the transaction price is constrained to the amount for which it is probable that a significant reversal of cumulative revenue recognized will not occur. At the end of each subsequent reporting period, the Company re-evaluates the

estimated variable consideration included in the transaction price and any related constraint, and if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis in the period of adjustment.

If an arrangement includes development and regulatory milestone payments, the Company evaluates whether the milestones are considered probable of being reached and estimates the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price. Milestone payments that are not within the Company's control or the licensee's control, such as regulatory approvals, are generally not considered probable of being achieved until those approvals are received.

For arrangements with licenses of intellectual property that include sales-based royalties, including milestone payments based on the level of sales, and the license is deemed to be the predominant item to which the royalties relate, the Company recognizes royalty revenue and sales-based milestones at the later of (i) when the related sales occur, or (ii) when the performance obligation to which the royalty has been allocated has been satisfied.

In determining the transaction price, the Company adjusts consideration for the effects of the time value of money if the timing of payments provides the Company with a significant benefit of financing. The Company does not assess whether a contract has a significant financing component if the expectation at contract inception is such that the period between payment by the licensees and the transfer of the promised goods or services to the licensees will be one year or less. The Company assessed its revenue generating arrangement in order to determine whether a significant financing component exists and concluded that a significant financing component does not exist.

The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) each performance obligation is satisfied, either at a point in time or over time, and if over time recognition is based on the use of an output or input method.

The Company has not recognized any product revenue to date since its product candidates are in development.

On May 31, 2021, and amended on September 26, 2022, the Company entered into a License and Collaboration Agreement, or, the LianBio License Agreement, with LianBio Inflammatory Limited, or LianBio, to develop and commercialize LYR-210 in Greater China (mainland China, Hong Kong, Taiwan, and Macau), South Korea, Singapore and Thailand. See Note 9 for further discussion of the arrangement.

Research and Development Costs

Research and development costs are expensed as incurred. Research and development expenses include salaries and benefits, materials and supplies, preclinical and clinical trial expenses, manufacturing expenses, stock-based compensation expense, depreciation of equipment, contract services, potential impairment charges related to research and development assets, and other outside expenses. Costs of certain development activities, such as clinical trials, are recognized based on an evaluation of the progress to completion of specific tasks. Payments for these activities are based on the terms of the individual arrangements, which may differ from the pattern of costs incurred, and are reflected in the consolidated financial statements as prepaid or accrued research and development costs. Nonrefundable advance payments for goods or services to be received in the future for use in research and development activities are deferred and capitalized. The capitalized amounts are expensed as the related goods are delivered or the services are performed.

The Company has entered into various research and development contracts with companies both inside and outside of the United States. These agreements are generally cancelable, and related payments are recorded as research and development expenses as incurred. The Company records accruals for estimated ongoing research costs. When evaluating the adequacy of the accrued liabilities, the Company analyzes progress of the studies or trials, including the phase or completion of events, invoices received and contracted costs. Significant judgments and estimates are made in determining the accrued balances at the end of any reporting period. Actual results could differ from the Company's estimates. The Company's historical accrual estimates have not been materially different from the actual costs.

Patent Costs

The Company expenses patent application and related legal costs as incurred and classifies such costs as general and administrative expenses in the accompanying consolidated statements of operations and comprehensive loss.

Accounting for Stock-Based Compensation

The Company accounts for its stock-based compensation in accordance with ASC Topic 718, *Compensation—Stock Compensation* (“ASC 718”). ASC 718 requires all stock-based payments to employees, non-employees and directors to be recognized as expense in the consolidated statements of operations and comprehensive loss based on their grant date fair values. The Company estimates the fair value of options granted using the Black-Scholes option pricing model for stock option grants to both employees and non-employees. The Company believes the fair value of the stock options granted to non-employees is more reliably determinable than the fair value of the services provided.

The Black-Scholes option-pricing model uses the following inputs: the fair value of the Company’s common stock, the expected volatility of the Company’s common stock, the expected term of the Company’s stock options, the risk-free interest rate for a period that approximates the expected term of the Company’s stock options, and the Company’s expected dividend yield. Prior to our IPO in 2020, the Company has historically been a private company and lacks company-specific historical and implied volatility data. Therefore, the Company has based its computation of expected volatility on the historical volatility of a representative group of public companies with similar characteristics to it, including stage of product development, life science industry focus, length of trading history, and similar vesting provisions. The historical volatility data is calculated based on a period of time commensurate with the expected term assumption. The Company will continue to apply this process until a sufficient amount of historical information regarding the volatility of its own stock price becomes available or until circumstances change, such that the identified entities are no longer representative companies. In the latter case, more suitable, similar entities whose share prices are publicly available would be utilized in the calculation.

The Company uses the simplified method as prescribed by the SEC Staff Accounting Bulletin No. 107, *Share-Based Payment*, to calculate the expected term for options granted to employees as it does not have sufficient historical exercise data to provide a reasonable basis upon which to estimate the expected term. The expected term is applied to the stock option grant group as a whole, as the Company does not expect substantially different exercise or post-vesting termination behavior among its employee population. For options granted to non-employees, the Company utilizes the contractual term of the share-based payment as the basis for the expected term assumption. The risk-free interest rate is based on a treasury instrument whose term is consistent with the expected term of the stock options. The expected dividend yield is assumed to be zero as the Company has never paid cash dividends and has no current plans to pay any cash dividends on its common stock. The Company’s policy is to recognize forfeitures as they occur.

The Company expenses the fair value of its stock-based compensation awards to employees, non-employees and directors on a straight-line basis over the requisite service period, which is generally the vesting period. The Company records the expense for stock-based compensation awards subject to performance-based milestone vesting when management determines that achievement of the milestone is probable. Management evaluates when the achievement of a performance-based milestone is probable based on the expected satisfaction of the performance conditions as of the reporting date.

Income Taxes

The Company accounts for income taxes using the liability method in accordance with ASC Topic 740, *Income Taxes* (“ASC 740”). The difference between the financial statement and tax basis of the assets and liabilities is determined annually. Deferred income tax assets and liabilities are computed using the tax laws and rates that are expected to apply for periods in which such differences reverse. Valuation allowances are established, if necessary, to reduce the deferred tax asset to the amount that will more likely than not be realized.

The Company recognizes the effect of income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs.

Net Loss per Share

The Company has reported losses since inception and has computed basic net loss per share by dividing its net loss by the weighted-average number of common shares outstanding for the period, without consideration for potentially dilutive securities. The Company has computed diluted net loss per common share after giving consideration to all potentially dilutive common shares, including options to purchase common stock, warrants to purchase common stock, outstanding during the period determined using the treasury-stock and if-converted methods, except where the effect of including such securities would be antidilutive. Because the Company has reported net losses since inception, these potential common shares have been anti-dilutive, basic, and diluted loss per share have been the same.

Basic and diluted net loss per share was calculated as follows (in thousands, except share and per share data):

	Year Ended December 31,	
	2022	2021
Numerator:		
Net loss	\$ (55,278)	\$ (43,513)
Net loss attributable to common stockholders	<u>\$ (55,278)</u>	<u>\$ (43,513)</u>
Denominator:		
Weighted-average common shares—basic and diluted	<u>30,235,689</u>	<u>12,986,101</u>
Net loss per share attributable to common stockholders—basic and diluted	<u>\$ (1.83)</u>	<u>\$ (3.35)</u>

The following table sets forth the potentially dilutive securities that have been excluded from the calculation of diluted net loss per share because to include them would be anti-dilutive:

	Year Ended December 31,	
	2022	2021
Stock options	4,311,333	1,662,861
Restricted stock units	28,212	—
Total	<u>4,339,545</u>	<u>1,662,861</u>

Recently Issued Accounting Pronouncements

From time to time, new accounting pronouncements are issued by the FASB or other standard setting bodies and adopted by the Company as of the specified date. Unless otherwise discussed, the Company believes that the impact of recently issued standards that are not yet effective will not have a material impact on the Company's consolidated financial position, results of operations or cash flows.

In June 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2016-13, Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments (ASU 2016-13). ASU 2016-13 requires that credit losses be reported as an allowance using an expected losses model, representing the entity's current estimate of credit losses expected to be incurred. The accounting guidance currently in effect is based on an incurred loss model. For available-for-sale debt securities with unrealized losses, this standard now requires allowances to be recorded instead of reducing the amortized cost of the investment. The amendments under ASU 2016-13 are effective for interim and annual fiscal periods beginning after December 15, 2022. The Company is continuing to evaluate the impact of ASU 2016-13 but does not expect the adoption of this ASU to have a material impact on its consolidated financial statements.

3. Fair Value Measurements

The following tables present information about the Company's financial assets and liabilities measured at fair value on a recurring basis and indicate the level of the fair value hierarchy utilized to determine such fair values:

LYRA THERAPEUTICS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — Continued

	December 31, 2022	Fair Value Measurements at Reporting Date Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Cash equivalents	\$ —	\$ —	\$ —	\$ —
Money market funds	22,580	22,580	—	—
Corporate debt securities	7,089	2,098	4,991	—
Total cash equivalents	\$ 29,669	\$ 24,678	\$ 4,991	\$ —
Short-term investments:				
US treasury bills	2,966	2,966	—	—
Corporate Bonds and U.S. Government Agency Securities	62,378	4,732	57,646	—
Total Short-term investments	\$ 65,344	\$ 7,698	\$ 57,646	\$ —

As of December 31, 2022 and 2021, the Company's cash equivalents were invested in money market funds which were valued based on Level 1 inputs, and highly liquid corporate debt securities which were valued based on level 2 inputs. As of December 31, 2022, the Company's short-term investments consisted of U.S. treasury bills which were valued based on Level 1 inputs and Corporate Bonds and U.S. Government Agency Securities which were valued based on Level 2 inputs. In determining the fair value of its investments at each date presented above, the Company relied on quoted prices for similar securities in active markets or using other inputs that are observable or can be corroborated by observable market data for Level 2 investments. All available-for-sale securities have contractual maturities of less than one year. The Company did not have any financial assets or liabilities during any of the periods presented in the accompanying consolidated financial statements that required Level 3 inputs.

The Company did not have financial assets and liabilities measured at fair value at December 31, 2021.

The carrying values of the Company's accounts payable and accrued expenses approximate their fair values due to the short-term nature of these liabilities.

4. Short-term Investments

The fair value of available-for-sale investments by type of security was as follows:

	December 31, 2022			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
Investments:				
U.S. treasury bills	\$ 2,966	\$ —	\$ —	\$ 2,966
Corporate Bonds and U.S. Government Agency Securities	62,368	14	(4)	62,378
Total investments	\$ 65,334	\$ 14	\$ (4)	\$ 65,344

The Company held four debt securities that were in an unrealized loss position as of December 31, 2022. The aggregated fair value of debt securities in an unrealized loss position was \$3.9 million. As of December 31, 2022, the Company did not hold debt securities in a continuous unrealized loss position for more than 12 months.

The Company reviews investments for other-than-temporary impairment whenever the fair value of an investment is less than the amortized cost and evidence indicates that an investment's carrying amount is not recoverable within a reasonable period of time. Other-than-temporary impairments of investments are recognized in the consolidated statements of operations if we have the intent to sell the investment or if it is more likely than not that the Company will be required to sell the investment before recovery of the amortized cost basis. Evidence considered in this assessment includes reasons for the impairment, compliance with our investment policy, the severity and the duration of the impairment, and changes in value subsequent to the end of the period. The unrealized losses at December 31, 2022 are attributable to changes in interest rates, and we do not believe any unrealized losses represent other-than-temporary impairments.

As of December 31, 2021, the Company had no short-term investments.

5. Property and Equipment

Property and equipment consist of the following (in thousands):

	December 31,	
	2022	2021
Property and equipment:		
Laboratory equipment	\$ 5,022	\$ 5,293
Computer software and equipment	675	675
Office furniture and fixtures	323	301
Leasehold improvements	397	2,113
	<u>\$ 6,417</u>	<u>\$ 8,382</u>
Accumulated depreciation	(4,174)	(3,879)
Property and equipment, net	<u>\$ 2,243</u>	<u>\$ 4,503</u>

The Company recognized approximately \$1.1 million and \$1.0 million of depreciation expense for the years ended December 31, 2022 and 2021, respectively.

Additionally, the Company recognized \$1.3 million related to loss on impairment of long-lived research and development assets. In October of 2022, the Company terminated an agreement with a contract manufacturer. The Company has funded certain leasehold improvements at the CMO's facility that the Company does not anticipate receiving the benefit of in the future and has accordingly impaired the respective assets.

6. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consist of the following (in thousands):

	December 31,	
	2022	2021
Payroll and employee related expenses	\$ 2,975	\$ 2,429
Third-party research and development expenses	3,435	1,196
Lease-related costs	1,961	—
Other	659	633
Total accrued expenses and other current liabilities	<u>\$ 9,030</u>	<u>\$ 4,258</u>

7. Preferred and Common Stock

The Company has 10,000,000 shares of undesignated preferred stock, par value \$0.001 per share. There were no shares issued or outstanding as of December 31, 2022 and 2021.

The holders of common stock are entitled to one vote for each share held. Common stockholders are not entitled to receive dividends, unless declared by the Board of Directors.

The Company currently has an effective shelf registration statement on Form S-3 (No. 333-256020) filed with the SEC on May 11, 2021 ("Form S-3"), under which it may offer from time to time in one or more offerings any combination of common and preferred stock, debt securities, warrants and units of up to \$250.0 million in the aggregate. As of December 31, 2022, the Company has not sold any securities under the Form S-3.

On May 11, 2021, the Company entered into an Open Market Sales Agreement ("2021 ATM Agreement") with Jefferies LLC ("Jefferies") to sell shares of its common stock, from time to time, with aggregate gross sales proceeds of up to \$50.0 million, through an at-the-market equity offering program under which Jefferies will act as the Company's sales agent. As of December 31, 2022, the Company has received no proceeds from the sale of shares of common stock pursuant to the

2021 ATM Agreement. The offering of the Company's shares of common stock pursuant to the 2021 ATM Agreement will terminate upon the earlier of (i) the sale of all shares of common stock subject to the 2021 ATM Agreement and (ii) the termination of the 2021 ATM Agreement as permitted therein. As of March 27, 2023, the Company terminated the 2021 ATM Agreement with Jefferies.

April 2022 Financing

On April 13, 2022, the Company announced the closing of its private placement of common stock (or, in lieu thereof, pre-funded warrants to purchase common stock), resulting in gross proceeds of approximately \$100.5 million ("April 2022 Financing"). The Company received approximately \$96.3 million in net proceeds after deducting estimated offering costs of \$4.2 million. Pursuant to the securities purchase agreement, (i) certain investors purchased an aggregate of 18,815,159 shares of common stock at \$4.22 per share for gross proceeds to the Company of \$79.4 million and (ii) certain investors purchased pre-funded warrants to purchase an aggregate of 5,000,000 shares of common stock, with the exercise price of \$0.001 per share for gross proceeds of \$21.1 million to the Company. The warrants are exercisable on or after April 13, 2022 and expire on April 12, 2027.

The pre-funded warrants were classified as a component of permanent stockholders' equity within additional paid-in capital and were recorded at the issuance date using a relative fair value allocation method. The pre-funded warrants are equity classified because they are freestanding financial instruments that are legally detachable and separately exercisable from the equity instruments, are immediately exercisable, do not embody an obligation for the Company to repurchase its shares, permit the holders to receive a fixed number of shares of common stock upon exercise, are indexed to the Company's common stock and meet the equity classification criteria. In addition, such pre-funded warrants do not provide any guarantee of value or return. The Company valued the pre-funded warrants at issuance, concluding that their sales price approximated their fair value, and allocated net proceeds from the sale proportionately to the common stock and pre-funded warrants, of which \$19.7 million was allocated to the pre-funded warrants and recorded as a component of additional paid-in capital. No pre-funded warrants have been exercised as of December 31, 2022.

The Company has reserved for future issuances the following shares of common stock as of December 31, 2022:

	As of December 31, 2022
Pre-funded warrants	5,000,000
Stock options and restricted stock units	6,259,114
Employee stock purchase plan	279,696
Total	11,538,810

8. Stock-Based Compensation Expense

The Company currently grants equity-based awards under its 2020 Incentive Award Plan ("2020 Plan"). The Company previously granted equity-based awards under its 2005 Equity Incentive Plan ("2005 Plan") and 2016 Equity Incentive Plan ("2016 Plan").

The 2020 Plan provides for grant of incentive stock options and nonqualified stock options, stock appreciation rights, restricted stock, dividend equivalents, restricted stock units, performance awards and other share and cash-based awards to employees and consultants and members of the Board of Directors of the Company and its subsidiary.

The initial number of shares of the Company’s common stock that may be issued under the 2020 Plan is 2,100,000 shares plus the number of shares of the Company’s common stock underlying outstanding awards under the 2005 Plan and 2016 Plan as of the effective date of the 2020 Plan that expire, lapse or are terminated, exchanged for cash, surrendered, repurchased, canceled or forfeited following the effective date of the 2020 Plan. The number of shares available under the 2020 Plan will automatically increase on January 1st of each year from 2021 to 2030 by the lesser of (i) 4% of the number of shares of common stock outstanding on the final day of the immediately preceding calendar year and (ii) a smaller number of shares determined by the Company’s Board of Directors. However, no more than 8,800,000 shares may be issued under the 2020 Plan pursuant to the exercise of incentive stock options. On January 1, 2022, the shares available for grant under the 2020 Plan was automatically increased by 520,287. As of December 31, 2022, the Company had 1,319,569 shares available for issuance under the 2020 Plan. On January 1, 2023, the shares available for grant under the 2020 Plan was automatically increased by 1,273,106.

In February 2022, the Company’s Board of Directors adopted the Company’s 2022 Employment Inducement Award Plan (“Inducement Award Plan,” and together with the 2020 Plan, 2016 Plan and 2005 Plan, the “Plans”), which was adopted by the Board of Directors without stockholder approval pursuant to Rule 5635(c)(4) of the Nasdaq Stock Market LLC listing rules (“Rule 5635(c)(4)”), and allows for the granting of up to 2,413,002 shares of the Company’s common stock. The Inducement Award Plan provides for the grant of non-qualified stock options, stock appreciation rights, performance units, restricted stock awards, restricted stock units and stock grants. In accordance with Rule 5635(c)(4), awards made under the Inducement Award Plan may only be made to a newly hired employee who has not previously been a member of the Board, or any employee who is being rehired following a bona fide period of non-employment by the Company or a subsidiary, as a material inducement to the employee’s entering into employment with the Company or its subsidiary. During 2022, the Company granted options to purchase 1,813,002 shares of common stock to certain executives. There were 600,000 shares remaining available for issuance as of December 31, 2022.

All stock option grants are nonqualified stock options except for option grants to employees granted, under the 2020 Plan, 2016 Plan or 2005 Plan intended to qualify as incentive stock options under the Internal Revenue Code of 1986, as amended. Stock options may not be granted under the 2020 Plan at less than the fair market value of the Company’s common stock on the date of grant. Vesting periods of awards are determined by the Board of Directors or its compensation committee. Vesting periods of awards granted to date range from vesting upon grant to vesting over a four-year period. Vesting conditions are generally based on continued service. Additionally, the Company has granted certain awards which vest upon the achievement of certain financing and revenue milestones. Stock options granted under the Plans expire no more than 10 years from the date of grant.

Stock-based compensation expense included in the Company’s consolidated statements of operations and comprehensive loss was as follows (in thousands):

	Year Ended December 31,	
	2022	2021
Research and development	\$ 850	\$ 508
General and administrative	4,597	2,262
Total	\$ 5,447	\$ 2,770

The Company has granted options to purchase 31,429 shares of common stock that vest based on the achievement of performance-based criteria related to scientific milestones, for which the Company has not recorded any stock-based compensation associated with the achievement of the milestone as it was not deemed probable as of December 31, 2022 and 2021. As of December 31, 2022, there was approximately \$36,000 of unrecognized stock-based compensation related to a stock option award related to the achievement of a commercial revenue-based milestone.

The Company has also granted options to purchase 1,648,002 shares of common stock that vest as to one-third of options, in each case, upon the achievement of three distinct market capitalization targets during the five-year performance period following the date of grant, provided that no more than one-third of the option may vest prior to the first anniversary of the date of grant, no more than two-thirds of the option may vest prior to the second anniversary of the date of grant and the option may not become fully vested prior to the third anniversary of the date of grant, subject to continued service on each applicable vesting date and certain exceptions in the context of a change in control transaction. The Company has accounted for these awards as market-based condition awards and therefore, stock-based compensation recorded during the year ended December 31, 2022 was \$2.2 million.

LYRA THERAPEUTICS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — Continued

The following table summarizes the Company’s unrecognized stock-based compensation as of December 31, 2022:

	Year Ended December 31,	
	Unrecognized Expense (in thousands)	Period of Recognition (years)
Restricted stock units	\$ 105	3.2
Stock options	9,247	2.2
Total	\$ 9,352	

The fair value of each stock option granted to employees, directors and non-employees was estimated on the date of grant using the Black-Scholes option-pricing model, or a Monte Carlo simulation in the case of the options granted to executive officers, with the following weighted-average assumptions:

	Year Ended December 31,	
	2022	2021
Risk-free interest rate	2.7 %	0.7 %
Expected dividend yield	— %	— %
Expected term (in years)	6.0	6.0
Expected volatility	81.3 %	85.0 %

A summary of the stock option activity under the Plans for the year ended December 31, 2022 was as follows:

	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding December 31, 2021	1,662,861	\$ 10.34	7.6	\$ 918
Granted	2,828,474	5.19		
Exercised	(2,718)	2.76		
Cancelled	(177,284)	7.83		
Outstanding at December 31, 2022	<u>4,311,333</u>	\$ 7.07	8.2	\$ 378
Exercisable at December 31, 2022	<u>1,350,357</u>	\$ 9.73	6.2	\$ 328
Vested and expected to vest at December 31, 2022	<u>4,311,333</u>	\$ 7.07	8.2	\$ 378

The weighted-average fair value of options granted to employees, directors and non-employees during the years ended December 31, 2022 and 2021 was \$3.40 and \$6.89, respectively.

The aggregate intrinsic value of stock options is calculated as the difference between the exercise price of the stock options and the fair value of the Company’s common stock for those stock options that had exercise prices lower than the fair value of the Company’s common stock. The aggregate intrinsic value of stock options exercised during the years ended December 31, 2022 and 2021 was approximately \$5,000 and \$0.3 million, respectively.

2020 Employee Stock Purchase Plan

In April 2020, the Company’s Board of Directors adopted the Company’s 2020 Employee Stock Purchase Plan (“2020 ESPP”). The 2020 ESPP is structured as a qualified employee stock purchase plan under Section 423 of the Internal Revenue Code of 1986, as amended, and is not subject to the provisions of the Employee Retirement Income Security Act of 1974. The Company initially reserved 150,000 shares of common stock for issuance under the 2020 ESPP. In addition, the number of shares available for issuance under the 2020 ESPP will be annually increased on January 1st of each year from 2021 to 2030 by the lesser of (i) 0.5% of the number of shares of common stock outstanding on the final day of the immediately preceding calendar year and (ii) such smaller number of shares as is determined by the Company’s Board of Directors, provided that no more than 987,500 shares of common stock may be issued under the 2020 ESPP.

On January 1, 2022, the shares available for grant under the 2020 ESPP was automatically increased by 65,035. There was no increase to the shares available for grant under the 2020 ESPP plan as of January 1, 2023. The 2020 ESPP permits eligible participants to purchase common stock through payroll deductions of up to a specified percentage of their eligible compensation. The purchase price of the shares, in the absence of a contrary designation, will be 85% of the lower of the fair market value of the Company's common stock on the first trading day of the offering period or on the purchase date. As of December 31, 2022, no shares have been issued under the 2020 ESPP.

9. Collaboration Agreement

On May 31, 2021, and as amended on September 26, 2022, we entered into the LianBio License Agreement with LianBio to develop and commercialize LYR-210 in Greater China (mainland China, Hong Kong, Taiwan, and Macau), South Korea, Singapore and Thailand. Under the terms of the LianBio License Agreement, the Company received an upfront payment of \$12.0 million and is eligible to receive up to \$135.0 million in future payments based upon the achievement of specified development, regulatory and commercialization milestones. Upon commercialization on a region-by-region basis, the Company will be entitled to receive low double-digit royalties based on net sales of LYR-210 in the licensed territories. LianBio will be responsible for the clinical development and commercialization of LYR-210 in the licensed territories, and the Company will retain all rights to LYR-210 in all other geographies. As part of the LianBio License Agreement, LianBio will also have the first right to obtain development and commercial rights in the licensed territories to the Company's LYR-220 product candidate.

The Company analyzes its collaboration arrangements to assess whether they are within the scope of ASC 808, *Collaborative Arrangements* ("ASC 808"), which includes determining whether such arrangements involve joint operating activities performed by parties that are both active participants in the activities and exposed to significant risks and rewards dependent on the commercial success of such activities, or ASC 606. This assessment is performed throughout the life of the arrangement based on changes in the responsibilities of all parties in the arrangement. For collaboration arrangements within the scope of ASC 808 that contain multiple elements, the Company first determines which elements of the collaboration are deemed to be within the scope of ASC 808 and those that are more reflective of a vendor-customer relationship and therefore within the scope of ASC 606. For elements of collaboration arrangements that are accounted for pursuant to ASC 808, an appropriate recognition method is determined and applied consistently, generally by analogy to ASC 606.

The Company assessed this arrangement in accordance with ASC 606 and concluded that the contract counterparty, LianBio, is a customer. At the commencement of the arrangement, the Company identified the following material promises: (1) license to develop and commercialize LYR-210, (2) manufacturing activities related to the clinical supply of LYR-210, (3) a non-exclusive license to manufacture LYR-210 and obligation to transfer manufacturing technology in the case of a supply failure, and (4) the Company's performance of the development activities related to the global Phase 3 clinical trial. The Company determined that the license to develop and commercialize LYR-210, the manufacturing activities related to the clinical supply of LYR-210, and the non-exclusive license to manufacture LYR-210 and obligation to transfer manufacturing technology in the case of a supply failure represent a single performance obligation because of the specialized nature of the LYR-210 manufacturing process whereby the license cannot be separated from the manufacturing activities related to the supply of LYR-210 and the right to manufacture LYR-210 is only available if there is a supply failure. For the purposes of ASC 606, the Company determined there were two distinct performance obligations: (1) the license to develop and commercialize LYR-210, manufacturing activities related to the clinical supply of LYR-210, and the non-exclusive license to manufacture LYR-210 and obligation to transfer manufacturing technology in the case of a supply failure ("Combined Performance Obligation"), and (2) the Company's performance of the development activities related to the global Phase 3 clinical trial ("Development Activities Performance Obligation").

Under the LianBio License Agreement, in order to evaluate the transaction price for purposes of ASC 606, the Company determined that the upfront payment of \$12.0 million and the reimbursable cost of the clinical supply of LYR-210 constitute the entirety of the consideration to be included in the transaction price as of the outset of the arrangement, which was allocated to the two performance obligations as follows: \$8.4 million to the Combined Performance Obligation and \$3.6 million to the Development Activities Performance Obligation. In February 2022, the Company received \$5.0 million upon achievement of the first of the development milestones related to dosing its first patient and the transaction price was adjusted by \$5.0 million which was allocated to the two performance obligations as follows: \$3.5 million to the Combined Performance Obligation and \$1.5 million to the Development Activities Performance Obligation. The remaining potential milestone payments that the Company is eligible to receive were excluded from the transaction price as of December 31, 2022, as all milestone amounts were fully constrained based on the probability of achievement.

LYRA THERAPEUTICS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — Continued

The Company and LianBio amended the LianBio License Agreement on September 26, 2022, to allow, among other things, LianBio to conduct its own Phase 3 clinical trial and adjust certain future milestones. The amendment also requires both parties to negotiate a supply agreement prior to December 31, 2022. There was a side letter executed on December 27, 2022 which extended the negotiations of a supply agreement until March 31, 2023. The amendment did not result in any change in the Company's determination of its performance obligations under the arrangement and all future milestones remain constrained from the transaction price. The Company has determined that the contract modification did not have a material impact on the allocation of the transaction price to the two performance obligations.

Additionally, the Company determined that LianBio's right of first refusal to obtain development and commercial rights in the licensed territories to LYR-220 is an option as any agreement would be negotiated at arm's length and as a result does not provide a material right to LianBio and as such, is not considered a performance obligation.

The Company will recognize the revenue associated with the Combined Performance Obligation as the clinical supply of LYR-210 is delivered. The Company recognizes revenue associated with the Development Activities Performance Obligation as the development activities are performed using an input method, according to the costs incurred as to the development activities related to the global Phase 3 clinical trial and the costs expected to be incurred in the future to satisfy the performance obligation. The transfer of control occurs over this time period and, in management's judgment, is the best measure of progress towards satisfying the performance obligation. The amounts received that have not yet been recognized as revenue are deferred as a contract liability on the Company's consolidated balance sheet and will be recognized as the clinical supply of LYR-210 is delivered and over the remaining time it takes to conduct the global Phase 3 clinical trial, respectively.

In February 2022, the Company achieved a development milestone of \$5.0 million for dosing the first patient in the US, and the related cash amount was received in April 2022. In accordance with ASC 606, the Company has updated its determination of the transaction price for this previously constrained amount from \$12.0 million to \$17.0 million, allocated the development milestones to each of the performance obligations previously identified in the agreement in accordance with the original revenue allocation percentages, and is recognizing the revenue under the revenue recognition model previously developed for each performance obligation. The following table reflects the change in the transaction price (in thousands):

	As of December 31, 2022		
	Pre-Milestone	Milestone	Post-Milestone
Combined Performance Obligation	\$ 8,373	\$ 3,489	\$ 11,862
Development Activities Performance Obligation	3,627	1,511	5,138
Total	\$ 12,000	\$ 5,000	\$ 17,000

The following table reflects the revenue recognized related to each of the performance obligations and the remaining deferred revenue (in thousands):

	As of December 31, 2022		
	Combined Performance Obligation	Development Activities Performance Obligation	Total
Deferred revenue at December 31, 2021	\$ 8,259	\$ 3,456	\$ 11,715
Milestone	3,489	1,511	5,000
Revenue recognized	—	(1,363)	(1,363)
Deferred revenue at December 31, 2022	\$ 11,748	\$ 3,604	\$ 15,352

Development and regulatory milestone fees, which are a type of variable consideration, are recognized as revenue to the extent that it is probable that a significant reversal will not occur. Note that the allocated deferred revenue

associated with the clinical supply agreement has been recorded as long term deferred revenue given the potential uncertainty of delivery within the next twelve months.

During the year ended December 31, 2022, the Company achieved a milestone, which resulted in the receipt of \$5.0 million of cash. There were no milestones achieved during the year ended December 31, 2021.

The Company recognizes royalty revenue and sales-based milestones at the later of (i) when the related sales occur, or (ii) when the performance obligation to which the royalty has been allocated has been satisfied. No royalty revenue has been earned as of December 31, 2022.

Entities affiliated with Perceptive Advisors, LLC are shareholders of both the Company and LianBio. Additionally, two of the Company's directors are Managing Directors at Perceptive Advisors, LLC and one of these directors is also the Executive Chairman of LianBio's board of directors.

10. Income Taxes

The Company records a provision or benefit for income taxes on pre-tax income or loss based on its estimated effective tax rate for the year. During the years ended December 31, 2022 and 2021, the Company recorded net losses of approximately \$55.3 million and \$43.5 million, respectively, and, since it maintains a full valuation allowance on its deferred tax assets, the Company did not record an income tax benefit for the years ended December 31, 2022 and 2021.

A reconciliation of income tax expense computed at the statutory federal income tax rate to income taxes reflected in the consolidated financial statements is as follows:

	Year Ended December 31,	
	2022	2021
Income tax computed at federal statutory tax rate	21.0%	21.0%
Permanent differences	(1.4)%	(0.3)%
State taxes, net of federal benefit	4.9%	4.9%
Research and development and other tax credits	4.4%	4.7%
Change in deferred tax asset valuation allowance	25.8%	(30.4)%
Loss of Attributes - IRC 382 Ownership Change	(54.7)%	
Other	—	0.1%
	—%	—%

LYRA THERAPEUTICS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — Continued

Net deferred tax assets as of December 31, 2022 and 2021 consist of the following (in thousands):

	December 31,	
	2022	2021
Deferred tax assets:		
Net operating loss carryforwards	\$ 25,154	\$ 46,462
Research and development credits	1,751	7,288
Stock-based compensation	1,295	848
Operating lease liabilities	583	382
Capitalized research & experimental expenditures	9,076	—
Deferred revenue	2,763	—
Other	474	73
Total gross deferred tax assets	41,096	55,053
Less: valuation allowance	(40,512)	(54,697)
Total deferred tax assets	584	356
Deferred tax liabilities:		
Operating lease right-of-use assets	(584)	(356)
Total deferred tax liabilities	(584)	(356)
Net deferred taxes	\$ —	\$ —

As a result of the Internal Revenue Code, or IRC, 382 study performed during the current year the Company has written off \$67.6 million of federal net operating losses and \$5.7 million of federal research and development credits. As of December 31, 2022, the Company had U.S. federal net operating loss carryforwards of approximately \$23.7 million which may be able to offset future income tax liabilities and expire at various dates through 2037 and approximately \$88.4 million of federal net operating loss carryforwards that may be carried forward indefinitely. As a result of the IRC 382 study performed during the current year, the Company has written off \$125.8 million of state net operating losses and \$2.8 million of state research and development credits. As of December 31, 2022, the Company had state net operating loss carryforwards of approximately \$25.5 million which may be available to offset future income tax liabilities and expire at various dates through 2042.

As of December 31, 2022 and 2021, the Company had federal research and development tax credit carryforwards of approximately \$1.4 million and \$5.2 million, respectively, available to reduce future tax liabilities which expire at various dates through 2042. As of December 31, 2022 and 2021, the Company had state research and development tax credit carryforwards of approximately \$0.4 million and \$2.7 million, respectively, available to reduce future tax liabilities which expire at various dates through 2037. The Company has generated research credits but has not conducted a study to document the qualified activity. This study may result in an adjustment to the Company's research and development credit carryforwards; however, until a study is completed and any adjustment is known, no amounts are being presented as an uncertain tax position. A full valuation allowance has been provided against the Company's research and development credits and, if an adjustment is required, this adjustment would be offset by an adjustment to the deferred tax asset established for the research and development credit carryforwards and the valuation allowance.

Under the provisions of the IRC, the net operating loss and tax credit carryforwards are subject to review and possible adjustment by the Internal Revenue Service and state tax authorities. Net operating loss and tax credit carryforwards may become subject to an annual limitation in the event of certain cumulative changes in the ownership interest of significant shareholders over a three-year period in excess of 50%, as defined under Sections 382 and 383 of the Internal Revenue Code, respectively, as well as similar state provisions. The Company has performed an IRC 382 study during the year which resulted in identifying three separate ownership changes that occurred on March 31, 2006, January 17, 2020, and April 13, 2022. Based on these ownership changes and the calculated IRC 382 annual limitations, the Company has written off \$67.6 million of federal net operating losses and \$5.7 million of federal research and development credits. For state purposes, the Company has written off \$125.8 million of state net operating losses and \$2.8 million of state research and development credits. The remainder of the attributes have an annual limitation that will impact how the attributes may be utilized in the future.

ASC 740 requires a valuation allowance to reduce the deferred tax assets reported if, based on the weight of the evidence, it is more likely than not that some portion or all of the deferred tax assets will not be realized. After consideration of all the evidence, both positive and negative, the Company has recorded a valuation allowance against its deferred tax

assets at December 31, 2022 and 2021 because the Company's management has determined that it is more likely than not that the Company will not recognize the benefits of its federal and state deferred tax assets primarily due to its history of cumulative net losses incurred since inception and its lack of commercialization of any products or generation of any revenue from product sales since inception and, as a result, a valuation allowance of approximately \$40.5 million and \$54.7 million, respectively, has been established at December 31, 2022 and 2021. Management reevaluates the positive and negative evidence at each reporting period. The valuation allowance decreased by approximately \$14.2 million during the year ended December 31, 2022 due to the write-off of net operating losses and research and development credits as a result of the IRC 382 study compared to the increase of approximately \$13.2 million, respectively, during the year ended December 31, 2021 due primarily to the generation of net operating losses.

The Company has recorded adjustments to deferred tax assets for unrecognized tax benefits as of December 31, 2022 and 2021. The Company's policy is to record interest and penalties related to uncertain tax positions as part of its income tax provision. As of December 31, 2022 and 2021, the Company had not accrued interest or penalties related to uncertain tax positions and no such amounts have been recognized in the Company's statement of operations and comprehensive loss. In many cases, the Company's uncertain tax positions are related to years that remain subject to examination by relevant tax authorities. The statute of limitations for federal and state tax authorities is closed for years prior to December 31, 2019. However, since the Company is in a loss carryforward position, the Company is generally subject to examination by the U.S. federal, state and local income tax authorities for all tax years in which a loss carryforward is available.

11. Leases

Watertown Lease

In August 2007, the Company entered into an operating lease, as amended, for office and laboratory space in Watertown, Massachusetts. In November 2017, the Company amended its lease ("2017 Amendment") to extend the lease term through April 2023. In November 2022, the Company amended the lease to extend the lease term through April 2024. The lease includes certain rent escalations. The lease modification was assessed as of December 31, 2022 and changes to the right of use asset and liability was reflected within the consolidated balance sheet.

The Company maintains a letter of credit of approximately \$0.3 million securing its obligations under the operating lease which is unsecured by approximately \$0.3 million, which are included as restricted cash in the consolidated balance sheets. Rent expense is recognized on a straight-line basis over the terms of occupancy.

Waltham Lease

In May 2022, the Company executed a new lease for laboratory and office space. This lease will be recorded on the Company's balance sheet when the Company obtains possession of the underlying asset, which is expected to occur in the fourth quarter of 2023, following completion of construction to prepare the premises for the Company's intended use. Annual base rent will start at \$2.2 million increasing 3% per year through the original non-cancelable term of the lease, which is ten years and two months following the lease commencement date. The Company has the option to extend the lease for one additional 5-year term and is responsible for real estate taxes, maintenance, and other operating expenses applicable to the leased premises.

As of December 31, 2022, the lease was not recorded on the consolidated balance sheet as the facility is under construction. When payments are made by the Company relating to landlord-owned leasehold improvements, they will be recorded to prepaid rent as a component of other non-current assets. Upon control of the space, The Company will reclassify the prepayment to the right-of-use asset, thereby increasing its initial value, but the prepayment will not be included in the measurement of the lease liability. As of December 31, 2022, approximately \$2.0 million of prepaid rent was recorded in other assets with a corresponding liability recorded in accrued expenses. The lease will be recorded as a component of the Company's right-of-use asset and operating lease liabilities when the Company takes possession of the space.

The Company provided a letter of credit in the amount of \$1.1 million as a security for the lease, which expires on May 1, 2023, at which point the letter will automatically renew each calendar year up to but not beyond July 31, 2033. The unsecured letter of credit is classified as restricted cash on the consolidated balance sheet.

In addition to the leases discussed above, the Company is party to an April 2020 lease for office equipment that expires in June 2024. The equipment lease is accounted for as an operating lease.

Embedded Leases

In April 2021, the Company entered into a clinical supply agreement with a CMO for clinical production of the Company’s product candidates at an existing facility and a facility under construction. The Company concluded that this clinical supply agreement contains embedded operating leases as the clean rooms in the existing facility and the new facility are designated for the Company’s exclusive use during the term of the agreement and the clinical supply agreement contains fixed commitments and variable costs related to production and material costs in excess of the fixed commitment specified in the agreement. The Company determined that it did not control the new facility during construction and, thus, the lease did not fall in the scope of “build-to-suit” accounting. The term of the clinical supply agreement is five years and will automatically renew for additional successive terms of one year unless either party gives notice of nonrenewal.

The lease period for the existing facility is less than 12 months and the Company has elected to apply the practical expedient in ASC Topic 842, *Leases* (“ASC 842”), to not recognize a lease liability or right-of-use asset but instead, recognize lease payments as an expense on a straight-line basis over the lease term and variable lease payments that do not depend on an index or rate, as an expense in the period in which the variable lease costs are incurred based on performance or usage in accordance with the clinical supply agreement. In October 2022, the Company terminated the agreement with the contract manufacturing organization.

The components of lease cost recorded in the Company’s consolidated financial statements were as follows (in thousands):

	Year Ended December 31,	
	2022	2021
Lease Cost:		
Operating lease cost	\$ 1,115	\$ 1,056
Variable lease cost	3,931	4,542
Total lease cost	<u>\$ 5,046</u>	<u>\$ 5,598</u>

Variable lease payments include the Company’s allocated share of costs incurred and expenditures made by the landlord in the operation and management of the building and variable lease costs associated with the Company’s CMO embedded lease arrangement. During the year ended December 31, 2022, the Company recorded as research and development expense approximately \$3.2 million of operating lease costs related to the CMO embedded lease.

The weighted-average remaining lease term and discount rate related to the Company’s operating leases were as follows:

	As of December 31, 2022
Weighted-average remaining lease term (in years)	1.3
Weighted-average discount rate	8.2 %

Maturity of the Company’s operating lease liabilities in accordance with ASC 842 as of December 31, 2022 were as follows (in thousands):

Year ending December 31,	
2023	1,673
2024	694
Total maturities	2,367
Less: Effects of discounting	(151)
Present value of operating lease liability	2,216
Less: Current portion of operating lease liability	(1,549)
Total operating lease liability, net of current portion	<u>\$ 667</u>

Total rent expense under the Company’s leases amounted to \$1.1 million for the years ended December 31, 2022 and 2021, respectively.

12. Retirement Plan

The Company has a defined-contribution plan under Section 401(k) of the Internal Revenue Code (“401(k) Plan”). The 401(k) Plan covers all employees who meet defined minimum age and service requirements and allows participants to defer a portion of their annual compensation on a pre-tax basis. As currently established, the Company is not required to make any contributions to the 401(k) Plan. For the years ended December 31, 2022 and 2021, the Company made a discretionary match that matches 50%, up to 6% employee contribution, and therefore a maximum of 3% of employees’ salary. Matching contributions are fully vested at the time of contribution. The Company matched \$0.3 million and \$0.2 million of employee 401(k) contributions for the years ended December 31, 2022 and 2021, respectively, which is included in the statements of operations and comprehensive loss.

13. Subsequent Events

On March 17, 2023, the Company filed a complaint in the Court of Chancery of the State of Delaware against a former contract manufacturer alleging breach of contract. The Company alleged in its complaint that its former contract manufacturer breached the Master Clinical Supply Agreement (“MCSA”) by misrepresenting their ability to produce LYR-210 in accordance with the specifications and with a robust quality system in place, and failed to return certain customer materials and equipment as required under the MCSA. The Company’s complaint seeks monetary damages and the return of equipment and materials that the Company owns. On March 28, 2023, the contract manufacturer filed a motion to remove the case from the Chancery Court to the United States District Court for the District of Delaware.

On March 27, 2023, the Company notified Jefferies LLC (“Jefferies”) of the termination of the Open Market Sales Agreement, dated May 11, 2021, between the Company and Jefferies.

DESCRIPTION OF THE REGISTRANT’S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

Lyra Therapeutics, Inc. has one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). References herein to “we,” “us,” “our” and the “Company” refer to Lyra Therapeutics, Inc. and not to any of its subsidiaries.

The following description of our securities and certain provisions of our amended and restated certificate of incorporation (our “certificate of incorporation”), and amended and restated bylaws (our “bylaws”) are summaries and are qualified in their entirety by reference to the full text of our amended and restated certificate of incorporation and amended and restated bylaws, each of which has been publicly filed with the SEC and applicable provisions of the General Corporation Law of the State of Delaware (the “DGCL”). Our authorized capital stock consists of:

- 200,000,000 shares of common stock, par value \$0.001 per share; and
- 10,000,000 shares of preferred stock, par value \$0.001 per share.

Our authorized capital stock consists of 200,000,000 shares of common stock, par value \$0.001 per share, and 10,000,000 shares of preferred stock, par value \$0.001 per share.

Common Stock

Our common stock is listed on the Nasdaq Global Market under the symbol “LYRA.”

Voting Rights. Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and do not have cumulative voting rights. An election of directors by our stockholders shall be determined by a plurality of the votes cast by the stockholders entitled to vote on the election. Subject to the supermajority votes for some matters, other matters shall be decided by the affirmative vote of our stockholders having a majority in voting power of the votes cast by the stockholders present or represented and voting on such matter. Our certificate of incorporation and bylaws also provide that our directors may be removed only for cause and only by the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock entitled to vote thereon. In addition, the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock entitled to vote thereon is required to amend or repeal, or to adopt any provision inconsistent with, several of the provisions of our certificate of incorporation. See below under “—Anti-Takeover Effects of Delaware Law and Our Certificate of Incorporation and Bylaws—Amendment of Charter Provisions.”

Rights Upon Liquidation. In the event of our liquidation or dissolution, the holders of common stock are entitled to receive proportionately our net assets available for distribution to stockholders after the payment of all debts and other liabilities and subject to the prior rights of any outstanding preferred stock. Holders of common stock have no preemptive, subscription, redemption or conversion rights. Our outstanding shares of common stock are validly issued, fully paid and nonassessable. The rights, preferences and privileges of holders of common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Transfer Agent

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC.

Dividend

Holders of common stock are entitled to receive proportionately any dividends as may be declared by our board of directors, subject to any preferential dividend rights of outstanding preferred stock. On March 20, 2012, we declared and paid a special cash dividend of \$0.2630467 per share of our common stock, or the Special Dividend, which totaled approximately \$42,115 in the aggregate. Other than the Special Dividend, we have never declared or paid any cash dividends on our common stock. We do not intend to pay cash dividends for the foreseeable future. We currently expect to retain all future earnings, if any, for use in the development, operation and expansion of our business. Any determination to pay cash dividends in the future will depend upon, among other things, our results of operations, plans for expansion, tax considerations, available net profits and reserves, limitations under law, financial condition, capital requirements and other factors that our board of directors considers to be relevant.

Preferred Stock

Under the terms of our certificate of incorporation, our board of directors is authorized to direct us to issue shares of preferred stock in one or more series without stockholder approval. Our board of directors has the discretion to determine the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, of each series of preferred stock.

The purpose of authorizing our board of directors to issue preferred stock and determine its rights and preferences is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions, future financings and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or could discourage a third party from seeking to acquire, a majority of our outstanding voting stock. There are no shares of preferred stock outstanding, and we have no present plans to issue any shares of preferred stock.

Options

As of December 31, 2022, options to purchase an aggregate of 124,440 shares of our common stock were outstanding under our 2005 Equity Incentive Plan, or our 2005 Plan (all of which were vested and exercisable as of such date), options to purchase 547,868 shares of common stock were outstanding under our 2016 Equity Incentive Plan, or our 2016 Plan (of which 502,715 shares were vested and exercisable as of such date), options to purchase 1,826,023 shares of common stock were outstanding under our 2020 Incentive Award Plan, or our 2020 Plan (of which 723,202 shares were vested and exercisable as of such date), restricted stock units covering 28,212 shares of common stock were outstanding under our 2020 Plan and options to purchase 1,813,002 shares of common stock were outstanding under our 2022 Employment Inducement Plan (none of which were vested or exercisable as of such date).

Warrants

On April 7, 2022, the Company entered into a securities purchase agreement with certain purchasers named therein, pursuant to which the Company agreed to sell securities to such purchasers in a private placement. In the private placement, the purchasers had the option to purchase either shares of our common stock or, in lieu thereof, pre-funded warrants to purchase shares of our common stock, each with an exercise price of \$0.001 per share. Accordingly, the Company issued pre-funded warrants to purchase 5,000,000 shares of our common stock upon the closing of the private placement.

As of December 31, 2022, warrants to purchase an aggregate of 5,000,000 shares of our common stock were outstanding.

The warrants are exercisable until 5:00 p.m., New York time, on April 12, 2027. The exercise price and number of shares of common stock issuable upon exercise of the warrants may be adjusted in certain circumstances, including in the event of a stock dividend, a forward or reverse split of our shares of common stock, and certain other events. However, the warrants will not be adjusted for issuances of common stock at prices below their respective exercise prices.

The Company issued the warrants in certificated form. A holder of a warrant certificate may exercise such warrant upon surrender of the applicable warrant certificate on or prior to the applicable expiration date at our principal office, with the exercise form on the reverse side of the warrant certificate completed and executed as indicated, accompanied by full payment of the exercise price for the number of warrants being exercised.

Subject to limited exceptions, a holder of warrants will not have the right to exercise any portion of its warrants if the holder (together with such holder's affiliates, and any persons acting as a group together with such holder or any of such holder's affiliates) would beneficially own a number of shares of our common stock in excess of 9.999% of the shares of our common stock then outstanding after giving effect to such exercise (the "Beneficial Ownership Limitation"); provided, however, that upon notice to us, the holder may increase or decrease the Beneficial Ownership Limitation, provided that in no event shall the Beneficial Ownership Limitation exceed 19.99% and any increase in the Beneficial Ownership Limitation will not be effective until 61 days following notice of such increase from the holder to us.

The holders of the warrants must pay the exercise price in cash upon exercise of the warrants, unless such holders are utilizing the cashless exercise provision of the warrants. The warrants may be exercised (in the sole discretion of the holder), in whole or in part, at such time by means of a "cashless exercise" in which the holder of such warrants shall be entitled to receive that number of warrant shares determined according to the following formula:

$$\frac{[(A-B) \times (X)]}{(A)}$$

Where:

A = the VWAP (as defined below) on the trading day immediately preceding the date of such election;

B = the exercise price then in effect; and

X = the number of shares of our common stock for which the warrant is being exercised (which shall include both the number of shares of our common stock issued to the holder thereof and the number of shares of our common stock subject to the portion of the warrant being cancelled in payment of the exercise price).

As used above, the "VWAP" means, for any date, the price determined by the first of the following clauses that applies: (i) if our common stock is then listed on The Nasdaq Global Select Market, The Nasdaq Global Market, The Nasdaq Capital Market or the New York Stock Exchange (such market, the "Trading Market"), the daily volume-weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market as reported by Bloomberg Financial L.P. (based on a "Trading Day" from 9:30 a.m. Eastern Time to 4:02 p.m. Eastern Time); (ii) the volume-weighted average price of our common stock for such date (or the nearest preceding date) on the OTC Bulletin Board; (iii) if our common stock is not then listed on a Trading Market or quoted on the OTC Bulletin Board and if prices for our common stock are then reported in the "Pink Sheets" published by the Pink Sheets, LLC (or a similar organization or agency succeeding to its functions of reporting prices), the most

recent bid price per share of our common stock so reported; or (iv) in all other cases, the fair market value of a share of our common stock as determined by a good faith determination of our Board of Directors.

The Company does not intend to apply for listing of the warrants on any securities exchange or other trading system.

Registration Rights

Certain holders of shares of our common stock are entitled to certain rights with respect to the registration of such shares for public resale under the Securities Act, pursuant to our ninth amended and restated investors' rights agreement, or the investor rights agreement, until the rights otherwise terminate pursuant to the terms of the investor rights agreement. The registration of shares of common stock as a result of the following rights being exercised would enable holders to trade these shares without restriction under the Securities Act when the applicable registration statement is declared effective.

Form S-1 Registration Rights

If at any time the holders of at least 30% of the registrable securities then outstanding request in writing that we effect a registration with respect to all or part of such registrable securities then outstanding having an anticipated aggregate offering price that would exceed \$5,000,000, we may be required to register their shares. We are obligated to effect at most (i) three registrations initiated by Perceptive Life Sciences Master Fund Ltd and Perceptive LS (A), LLC, collectively referred to as Perceptive, and (ii) three registrations covering registrable securities held by investors other than Perceptive, in each case in response to these demand registration rights. If the holders requesting registration intend to distribute their shares by means of an underwriting, the managing underwriter of such offering will have the right to limit the numbers of shares to be underwritten for reasons related to the marketing of the shares.

Piggyback Registration Rights

If at any time we propose to register any shares of our common stock under the Securities Act, subject to certain exceptions, the holders of registrable securities then outstanding will be entitled to notice of the registration and to include their shares of registrable securities in the registration. If our proposed registration involves an underwriting, the managing underwriter of such offering will have the right to limit the number of shares to be underwritten for reasons related to the marketing of the shares.

Form S-3 Registration Rights

If, at any time after we become entitled under the Securities Act to register our shares on a registration statement on Form S-3, the holders of the registrable securities then outstanding request in writing that we effect a registration with respect to all or part of such registrable securities having an anticipated aggregate offering price to the public in the offering of at least \$2,000,000, we will be required to effect such registration; provided, however, that we will not be required to effect such a registration if, within any twelve month period, we have already effected two registrations on Form S-3 for the holders of registrable securities.

Expenses and Indemnification

Ordinarily, other than underwriting discounts and commissions, we will be required to pay all expenses incurred by us related to any registration effected pursuant to the exercise of these registration rights. These expenses may include all registration and filing fees, printing expenses, fees and disbursements of our counsel, reasonable fees and disbursements of a counsel for the selling securityholders and blue sky fees and expenses. Additionally, we have agreed to indemnify selling stockholders for damages, and any legal or other expenses reasonably incurred, arising from or based upon any untrue statement of a material fact contained in any registration statement, an omission or alleged omission to state a material fact in any

registration statement or necessary to make the statements therein not misleading, or any violation or alleged violation by the indemnifying party of securities laws, subject to certain exceptions.

Termination of Registration Rights

The registration rights terminate upon the earlier of the date on which no stockholder holds any registrable securities, the closing of a company sale, as defined in the investor rights agreement, at such time as SEC Rule 144 or another similar exemption under the Securities Act is available for the sale of all of a stockholder's shares without limitation during a three-month period without registration, at such time a stockholder is not an affiliate (as defined under the Securities Act) of the Company, or May 5, 2028.

Anti-Takeover Effects of Delaware Law and Our Certificate of Incorporation and Bylaws

Some provisions of Delaware law, our certificate of incorporation and our bylaws could make the following transactions more difficult: an acquisition of us by means of a tender offer; an acquisition of us by means of a proxy contest or otherwise; or the removal of our incumbent officers and directors. It is possible that these provisions could make it more difficult to accomplish or could deter transactions that stockholders may otherwise consider to be in their best interest or in our best interests, including transactions which provide for payment of a premium over the market price for our shares.

These provisions, summarized below, are intended to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors. We believe that the benefits of the increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging these proposals because negotiation of these proposals could result in an improvement of their terms.

Undesignated Preferred Stock. The ability of our board of directors, without action by the stockholders, to issue up to 10,000,000 shares of undesignated preferred stock with voting or other rights or preferences as designated by our board of directors could impede the success of any attempt to change control of us. These and other provisions may have the effect of deferring hostile takeovers or delaying changes in control or management of our company.

Stockholder Meetings. Our bylaws provide that a special meeting of stockholders may be called only by our chairman of the board, chief executive officer or president (in the absence of a chief executive officer), or by a resolution adopted by a majority of our board of directors.

Requirements for Advance Notification of Stockholder Nominations and Proposals. Our bylaws establish advance notice procedures with respect to stockholder proposals to be brought before a stockholder meeting and the nomination of candidates for election as directors, other than nominations made by or at the direction of the board of directors or a committee of the board of directors.

Elimination of Stockholder Action by Written Consent. Our certificate of incorporation eliminates the right of stockholders to act by written consent without a meeting.

Staggered Board. Our board of directors is divided into three classes. The directors in each class will serve for a three-year term, one class being elected each year by our stockholders. This system of electing and removing directors may tend to discourage a third-party from making a tender offer or otherwise attempting to obtain control of us, because it generally makes it more difficult for stockholders to replace a majority of the directors.

Removal of Directors. Our certificate of incorporation provides that no member of our board of directors may be removed from office by our stockholders except for cause and, in addition to any other vote required by law, upon the approval of the holders of at least two-thirds in voting power of the outstanding shares of stock entitled to vote in the election of directors.

Stockholders Not Entitled to Cumulative Voting. Our certificate of incorporation does not permit stockholders to cumulate their votes in the election of directors. Accordingly, the holders of a majority of the outstanding shares of our common stock entitled to vote in any election of directors can elect all of the directors standing for election, if they choose, other than any directors that holders of our preferred stock may be entitled to elect.

Delaware Anti-Takeover Statute. We are subject to Section 203 of the General Corporation Law of the State of Delaware, which prohibits persons deemed to be “interested stockholders” from engaging in a “business combination” with a publicly held Delaware corporation for three years following the date these persons become interested stockholders unless the business combination is, or the transaction in which the person became an interested stockholder was, approved in a prescribed manner or another prescribed exception applies. Generally, an “interested stockholder” is a person who, together with affiliates and associates, owns, or within three years prior to the determination of interested stockholder status did own, 15% or more of a corporation’s voting stock. Generally, a “business combination” includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. The existence of this provision may have an anti-takeover effect with respect to transactions not approved in advance by the board of directors.

Choice of Forum. Our certificate of incorporation provides that, unless we consent in writing to the selection of an alternative form, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for: (1) any derivative action or proceeding brought on our behalf; (2) any action asserting a claim of breach of a fiduciary duty or other wrongdoing by any of our directors, officers, employees or stockholders to us or our stockholders; (3) any action asserting a claim against us arising pursuant to any provision of the General Corporation Law of the State of Delaware or our certificate of incorporation or bylaws; or (4) any action asserting a claim governed by the internal affairs doctrine. Under our certificate of incorporation, this exclusive forum provision will not apply to claims which are vested in the exclusive jurisdiction of a court or forum other than the Court of Chancery of the State of Delaware, or for which the Court of Chancery of the State of Delaware does not have subject matter jurisdiction. For instance, the provision would not apply to actions arising under federal securities laws, including suits brought to enforce any liability or duty created by the Securities Act, Exchange Act, or the rules and regulations thereunder. Our certificate of incorporation further provides that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States of America shall, to the fullest extent permitted by law, be the sole and exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act. Our certificate of incorporation also provides that any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock will be deemed to have notice of and to have consented to these choice of forum provisions. It is possible that a court of law could rule that either or both of the choice of forum provisions contained in our certificate of incorporation is inapplicable or unenforceable if it is challenged in a proceeding or otherwise.

Amendment of Charter Provisions. The amendment of any of the above provisions, except for the provision making it possible for our board of directors to issue preferred stock and the provision prohibiting cumulative voting, would require approval by holders of at least two-thirds in voting power of the outstanding shares of stock entitled to vote thereon.

The provisions of Delaware law, our certificate of incorporation and our bylaws could have the effect of discouraging others from attempting hostile takeovers and, as a consequence, they may also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions may also have the effect of preventing changes in the composition of our board and management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders may otherwise deem to be in their best interest.

LYRA THERAPEUTICS, INC.
2022 EMPLOYMENT INDUCEMENT AWARD PLAN
AS AMENDED AND RESTATED EFFECTIVE DECEMBER 12, 2022

ARTICLE I.
PURPOSE

The Plan's purpose is to enhance the Company's ability to attract, retain and motivate persons who are expected to make important contributions to the Company by providing these individuals with equity ownership opportunities. Capitalized terms used in the Plan are defined in Article XI.

ARTICLE II.
ELIGIBILITY

Eligible Individuals are eligible to be granted Awards under the Plan, subject to the limitations described herein.

ARTICLE III.
ADMINISTRATION AND DELEGATION

3.1 Administration. The Plan is administered by the Administrator. The Administrator has authority to determine which Eligible Individuals receive Awards, grant Awards and set Award terms and conditions, subject to the conditions and limitations in the Plan. The Administrator also has the authority to take all actions and make all determinations under the Plan, to interpret the Plan and Award Agreements and to adopt, amend and repeal Plan administrative rules, guidelines and practices as it deems advisable. The Administrator may correct defects and ambiguities, supply omissions and reconcile inconsistencies in the Plan or any Award as it deems necessary or appropriate to administer the Plan and any Awards. The Administrator may adopt procedures from time to time that are intended to ensure that an individual is an Eligible Individual prior to the granting of any Awards to such individual (including without limitation a requirement that each such individual certify to the Company prior to the receipt of an Award that he or she is not currently employed by the Company or a Subsidiary and, if previously so employed, has had a bona fide period of interruption of employment, and that the grant of Awards is an inducement material to his or her agreement to enter into employment with the Company or a Subsidiary). The Administrator's determinations under the Plan are in its sole discretion and will be final and binding on all persons having or claiming any interest in the Plan or any Award.

3.2 Appointment of Committees. To the extent Applicable Laws permit, the Board may delegate any or all of its powers under the Plan to one or more Committees. The Board may abolish any Committee or re-vest in itself any previously delegated authority at any time.

ARTICLE IV.
STOCK AVAILABLE FOR AWARDS

4.1 Number of Shares. Subject to adjustment under Article VIII and the terms of this Article IV, Awards may be made under the Plan covering up to the Overall Share Limit. Shares issued under the Plan may consist of authorized but unissued Shares, Shares purchased on the open market or treasury Shares.

4.2 Share Recycling. If all or any part of an Award expires, lapses or is terminated, exchanged for cash, surrendered, repurchased, canceled without having been fully exercised or forfeited, in any case,

in a manner that results in the Company acquiring Shares covered by the Award at a price not greater than the price (as adjusted to reflect any Equity Restructuring) paid by the Participant for such Shares or not issuing any Shares covered by the Award, the unused Shares covered by the Award will again be available for Award grants under the Plan. Further, Shares delivered (either by actual delivery or attestation) to the Company by a Participant to satisfy the applicable exercise or purchase price of an Award and/or to satisfy any applicable tax withholding obligation (including Shares retained by the Company from the Award being exercised or purchased and/or creating the tax obligation) will again be available for Award grants under the Plan. The payment of Dividend Equivalents in cash in conjunction with any outstanding Awards shall not count against the Overall Share Limit.

ARTICLE V. STOCK OPTIONS AND STOCK APPRECIATION RIGHTS

5.1 General. The Administrator may grant Non-Qualified Options or Stock Appreciation Rights to Eligible Individuals subject to the conditions and limitations in the Plan. The Administrator will determine the number of Shares covered by each Option and Stock Appreciation Right, the exercise price of each Option and Stock Appreciation Right and the conditions and limitations applicable to the exercise of each Option and Stock Appreciation Right. A Stock Appreciation Right will entitle the Participant (or other person entitled to exercise the Stock Appreciation Right) to receive from the Company upon exercise of the exercisable portion of the Stock Appreciation Right an amount determined by multiplying the excess, if any, of the Fair Market Value of one Share on the date of exercise over the exercise price per Share of the Stock Appreciation Right by the number of Shares with respect to which the Stock Appreciation Right is exercised, subject to any limitations of the Plan or that the Administrator may impose and payable in cash, Shares valued at Fair Market Value or a combination of the two as the Administrator may determine or provide in the Award Agreement.

5.2 Exercise Price. The Administrator will establish each Option's and Stock Appreciation Right's exercise price and specify the exercise price in the Award Agreement. The exercise price will not be less than 100% of the Fair Market Value on the grant date of the Option or Stock Appreciation Right.

5.3 Duration. Each Option or Stock Appreciation Right will be exercisable at such times and as specified in the Award Agreement, provided that the term of an Option or Stock Appreciation Right will not exceed ten years. Notwithstanding the foregoing and unless determined otherwise by the Company, in the event that on the last business day of the term of an Option or Stock Appreciation Right (i) the exercise of the Option or Stock Appreciation Right is prohibited by Applicable Law, as determined by the Company, or (ii) Shares may not be purchased or sold by the applicable Participant due to any Company insider trading policy (including blackout periods) or a "lock-up" agreement undertaken in connection with an issuance of securities by the Company, the term of the Option or Stock Appreciation Right shall be extended until the date that is thirty (30) days after the end of the legal prohibition, black-out period or lock-up agreement, as determined by the Company; provided, however, in no event shall the extension last beyond the ten year term of the applicable Option or Stock Appreciation Right. Notwithstanding the foregoing, if the Participant, prior to the end of the term of an Option or Stock Appreciation Right, violates the non-competition, non-solicitation, confidentiality or other similar restrictive covenant provisions of any employment contract, confidentiality and nondisclosure agreement or other agreement between the Participant and the Company or any of its Subsidiaries, the right of the Participant and the Participant's transferees to exercise any Option or Stock Appreciation Right issued to the Participant shall terminate immediately upon such violation, unless the Company otherwise determines. In addition, if, prior to the end of the term of an Option or Stock Appreciation Right, the Participant is given notice by the Company or any of its Subsidiaries of the Participant's Termination of Service by the Company or any of its Subsidiaries for Cause, and the effective date of such Termination of Service is subsequent to the date of the delivery of such notice, the right of the Participant and the Participant's transferees to exercise any

Option or Stock Appreciation Right issued to the Participant shall be suspended from the time of the delivery of such notice until the earlier of (i) such time as it is determined or otherwise agreed that the Participant's service as a Service Provider will not be terminated for Cause as provided in such notice or (ii) the effective date of the Participant's Termination of Service by the Company or any of its Subsidiaries for Cause (in which case the right of the Participant and the Participant's transferees to exercise any Option or Stock Appreciation Right issued to the Participant will terminate immediately upon the effective date of such Termination of Service).

5.4 Exercise. Options and Stock Appreciation Rights may be exercised by delivering to the Company a written notice of exercise, in a form the Administrator approves (which may be electronic), signed by the person authorized to exercise the Option or Stock Appreciation Right, together with, as applicable, payment in full (i) as specified in Section 5.5 for the number of Shares for which the Award is exercised and (ii) as specified in Section 9.5 for any applicable taxes. Unless the Administrator otherwise determines, an Option or Stock Appreciation Right may not be exercised for a fraction of a Share.

5.5 Payment Upon Exercise. Subject to Section 10.9, any Company insider trading policy (including blackout periods) and Applicable Laws, the exercise price of an Option must be paid by:

(a) cash, wire transfer of immediately available funds or by check payable to the order of the Company, provided that the Company may limit the use of one of the foregoing payment forms if one or more of the payment forms below is permitted;

(b) if there is a public market for Shares at the time of exercise, unless the Company otherwise determines, (A) delivery (including telephonically to the extent permitted by the Company) of an irrevocable and unconditional undertaking by a broker acceptable to the Company to deliver promptly to the Company sufficient funds to pay the exercise price, or (B) the Participant's delivery to the Company of a copy of irrevocable and unconditional instructions to a broker acceptable to the Company to deliver promptly to the Company cash or a check sufficient to pay the exercise price; provided that such amount is paid to the Company at such time as may be required by the Administrator;

(c) to the extent permitted by the Administrator, delivery (either by actual delivery or attestation) of Shares owned by the Participant valued at their Fair Market Value;

(d) to the extent permitted by the Administrator, surrendering Shares then issuable upon the Option's exercise valued at their Fair Market Value on the exercise date;

(e) to the extent permitted by the Administrator, delivery of a promissory note or any other property that the Administrator determines is good and valuable consideration; or

(f) to the extent permitted by the Company, any combination of the above payment forms approved by the Administrator.

ARTICLE VI. RESTRICTED STOCK; RESTRICTED STOCK UNITS

6.1 General. The Administrator may grant Restricted Stock, or the right to purchase Restricted Stock, to any Eligible Individual, subject to the Company's right to repurchase all or part of such shares at their issue price or other stated or formula price from the Participant (or to require forfeiture of such shares) if conditions the Administrator specifies in the Award Agreement are not satisfied before the end of the applicable restriction period or periods that the Administrator establishes for such Award and subject to the

conditions and limitations in the Plan. In addition, subject to the conditions and limitations in the Plan, the Administrator may grant to Eligible Individuals Restricted Stock Units, which may be subject to vesting and forfeiture conditions during the applicable restriction period or periods, as set forth in an Award Agreement. The Administrator will determine and set forth in the Award Agreement the terms and conditions for each Restricted Stock and Restricted Stock Unit Award, subject to the conditions and limitations contained in the Plan.

6.2 Restricted Stock.

(a) Dividends. Participants holding shares of Restricted Stock will be entitled to all ordinary cash dividends paid with respect to such Shares, unless the Administrator provides otherwise in the Award Agreement. In addition, unless the Administrator provides otherwise, if any dividends or distributions are paid in Shares, or consist of a dividend or distribution to holders of Common Stock of property other than an ordinary cash dividend, the Shares or other property will be subject to the same restrictions on transferability and forfeitability as the shares of Restricted Stock with respect to which they were paid.

(b) Stock Certificates. The Company may require that the Participant deposit in escrow with the Company (or its designee) any stock certificates issued in respect of shares of Restricted Stock, together with a stock power endorsed in blank.

6.3 Restricted Stock Units.

(a) Settlement. The Administrator may provide that settlement of Restricted Stock Units will occur upon or as soon as reasonably practicable after the Restricted Stock Units vest or will instead be deferred, on a mandatory basis or at the Participant's election, in a manner intended to comply with Section 409A.

(b) Stockholder Rights. A Participant will have no rights of a stockholder with respect to Shares subject to any Restricted Stock Unit unless and until the Shares are delivered in settlement of the Restricted Stock Unit.

(c) Dividend Equivalents. If the Administrator provides, a grant of Restricted Stock Units may provide a Participant with the right to receive Dividend Equivalents. Dividend Equivalents may be paid currently or credited to an account for the Participant, settled in cash or Shares and subject to the same restrictions on transferability and forfeitability as the Restricted Stock Units with respect to which the Dividend Equivalents are granted and subject to other terms and conditions as set forth in the Award Agreement.

ARTICLE VII. OTHER STOCK OR CASH BASED AWARDS

Other Stock or Cash Based Awards may be granted to Participants, including Awards entitling Participants to receive Shares to be delivered in the future and including annual or other periodic or long-term cash bonus awards (whether based on specified Performance Criteria or otherwise), in each case subject to any conditions and limitations in the Plan. Such Other Stock or Cash Based Awards will also be available as a payment form in the settlement of other Awards, as standalone payments and as payment in lieu of compensation to which a Participant is otherwise entitled. Other Stock or Cash Based Awards may be paid in Shares, cash or other property, as the Administrator determines. Subject to the provisions of the Plan, the Administrator will determine the terms and conditions of each Other Stock or Cash Based Award,

including any purchase price, performance goal (which may be based on the Performance Criteria), transfer restrictions, and vesting conditions, which will be set forth in the applicable Award Agreement.

**ARTICLE VIII.
ADJUSTMENTS FOR CHANGES IN COMMON STOCK
AND CERTAIN OTHER EVENTS**

8.1 Equity Restructuring. In connection with any Equity Restructuring, notwithstanding anything to the contrary in this Article VIII, the Administrator will equitably adjust each outstanding Award as it deems appropriate to reflect the Equity Restructuring, which may include adjusting the number and type of securities subject to each outstanding Award and/or the Award's exercise price or grant price (if applicable), granting new Awards to Participants (subject to Section 10.4), and making a cash payment to Participants. The adjustments provided under this Section 8.1 will be nondiscretionary and final and binding on the affected Participant and the Company; provided that the Administrator will determine whether an adjustment is equitable.

8.2 Corporate Transactions. In the event of any dividend or other distribution (whether in the form of cash, Common Stock, other securities, or other property), reorganization, merger, consolidation, combination, amalgamation, repurchase, recapitalization, liquidation, dissolution, or sale, transfer, exchange or other disposition of all or substantially all of the assets of the Company, or sale or exchange of Common Stock or other securities of the Company, Change in Control, issuance of warrants or other rights to purchase Common Stock or other securities of the Company, other similar corporate transaction or event, other unusual or nonrecurring transaction or event affecting the Company or its financial statements or any change in any Applicable Laws or accounting principles, the Administrator, on such terms and conditions as it deems appropriate, either by the terms of the Award or by action taken prior to the occurrence of such transaction or event (except that action to give effect to a change in Applicable Law or accounting principles may be made within a reasonable period of time after such change) and either automatically or upon the Participant's request, is hereby authorized to take any one or more of the following actions whenever the Administrator determines that such action is appropriate in order to (x) prevent dilution or enlargement of the benefits or potential benefits intended by the Company to be made available under the Plan or with respect to any Award granted or issued under the Plan, (y) to facilitate such transaction or event or (z) give effect to such changes in Applicable Laws or accounting principles:

(a) to provide for the cancellation of any such Award in exchange for either an amount of cash or other property with a value equal to the amount that could have been obtained upon the exercise or settlement of the vested portion of such Award or realization of the Participant's rights under the vested portion of such Award, as applicable; provided that, if the amount that could have been obtained upon the exercise or settlement of the vested portion of such Award or realization of the Participant's rights, in any case, is equal to or less than zero, then the Award may be terminated without payment;

(b) to provide that such Award shall vest and, to the extent applicable, be exercisable as to all shares covered thereby, notwithstanding anything to the contrary in the Plan or the provisions of such Award;

(c) to provide that such Award be assumed by the successor or survivor corporation, or a parent or subsidiary thereof, or shall be substituted for by awards covering the stock of the successor or survivor corporation, or a parent or subsidiary thereof, with appropriate adjustments as to the number and kind of shares and/or applicable exercise or purchase price, in all cases, as determined by the Administrator;

(d) to make adjustments in the number and type of shares of Common Stock (or other securities or property) subject to outstanding Awards and/or with respect to which Awards may be granted under the Plan (including, but not limited to, adjustments of the limitations in Article IV hereof on the maximum number and kind of shares which may be issued) and/or in the terms and conditions of (including the grant or exercise price), and the criteria included in, outstanding Awards;

(e) to replace such Award with other rights or property selected by the Administrator; and/or

(f) to provide that the Award will terminate and cannot vest, be exercised or become payable after the applicable event.

8.3 Administrative Stand Still. In the event of any pending stock dividend, stock split, combination or exchange of shares, merger, consolidation or other distribution (other than normal cash dividends) of Company assets to stockholders, or any other extraordinary transaction or change affecting the Shares or the share price of Common Stock, including any Equity Restructuring or any securities offering or other similar transaction, for administrative convenience, the Administrator may refuse to permit the exercise of any Award for up to sixty days before or after such transaction.

8.4 General. Except as expressly provided in the Plan or the Administrator's action under the Plan, no Participant will have any rights due to any subdivision or consolidation of Shares of any class, dividend payment, increase or decrease in the number of Shares of any class or dissolution, liquidation, merger, or consolidation of the Company or other corporation. Except as expressly provided with respect to an Equity Restructuring under Section 8.1 above or the Administrator's action under the Plan, no issuance by the Company of Shares of any class, or securities convertible into Shares of any class, will affect, and no adjustment will be made regarding, the number of Shares subject to an Award or the Award's grant or exercise price. The existence of the Plan, any Award Agreements and the Awards granted hereunder will not affect or restrict in any way the Company's right or power to make or authorize (i) any adjustment, recapitalization, reorganization or other change in the Company's capital structure or its business, (ii) any merger, consolidation dissolution or liquidation of the Company or sale of Company assets or (iii) any sale or issuance of securities, including securities with rights superior to those of the Shares or securities convertible into or exchangeable for Shares. The Administrator may treat Participants and Awards (or portions thereof) differently under this Article VIII.

ARTICLE IX. GENERAL PROVISIONS APPLICABLE TO AWARDS

9.1 Transferability. Except as the Administrator may determine or provide in an Award Agreement or otherwise, Awards may not be sold, assigned, transferred, pledged or otherwise encumbered, either voluntarily or by operation of law, except by will or the laws of descent and distribution, or, subject to the Administrator's consent, pursuant to a domestic relations order, and, during the life of the Participant, will be exercisable only by the Participant. References to a Participant, to the extent relevant in the context, will include references to a Participant's authorized transferee that the Administrator specifically approves.

9.2 Documentation. Each Award will be evidenced in an Award Agreement, which may be written or electronic, as the Administrator determines. Each Award may contain terms and conditions in addition to those set forth in the Plan.

9.3 Discretion. Except as the Plan otherwise provides, each Award may be made alone or in addition or in relation to any other Award. The terms of each Award to a Participant need not be identical, and the Administrator need not treat Participants or Awards (or portions thereof) uniformly.

9.4 Termination of Status. The Administrator will determine how the disability, death, retirement, authorized leave of absence or any other change or purported change in a Participant's Service Provider status affects an Award and the extent to which, and the period during which, the Participant, the Participant's legal representative, conservator, guardian or Designated Beneficiary may exercise rights under the Award, if applicable.

9.5 Withholding. Each Participant must pay the Company, or make provision satisfactory to the Administrator for payment of, any taxes required by law to be withheld in connection with such Participant's Awards by the date of the event creating the tax liability. The Company may deduct an amount sufficient to satisfy such tax obligations based on the applicable statutory withholding rates (or such other rate as may be determined by the Company after considering any accounting consequences or costs) from any payment of any kind otherwise due to a Participant. Subject to Section 10.9 and any Company insider trading policy (including blackout periods), Participants may satisfy such tax obligations (i) in cash, by wire transfer of immediately available funds, by check made payable to the order of the Company, provided that the Company may limit the use of the foregoing payment forms if one or more of the payment forms below is permitted, (ii) to the extent permitted by the Administrator, in whole or in part by delivery of Shares, including Shares retained from the Award creating the tax obligation, valued at their Fair Market Value, (iii) if there is a public market for Shares at the time the tax obligations are satisfied, unless the Company otherwise determines, (A) delivery (including telephonically to the extent permitted by the Company) of an irrevocable and unconditional undertaking by a broker acceptable to the Company to deliver promptly to the Company sufficient funds to satisfy the tax obligations, or (B) delivery by the Participant to the Company of a copy of irrevocable and unconditional instructions to a broker acceptable to the Company to deliver promptly to the Company cash or a check sufficient to satisfy the tax withholding, provided that such amount is paid to the Company at such time as may be required by the Administrator, or (iv) to the extent permitted by the Company, any combination of the foregoing payment forms approved by the Administrator. If any tax withholding obligation will be satisfied under clause (ii) of the immediately preceding sentence by the Company's retention of Shares from the Award creating the tax obligation and there is a public market for Shares at the time the tax obligation is satisfied, the Company may elect to instruct any brokerage firm determined acceptable to the Company for such purpose to sell on the applicable Participant's behalf some or all of the Shares retained and to remit the proceeds of the sale to the Company or its designee, and each Participant's acceptance of an Award under the Plan will constitute the Participant's authorization to the Company and instruction and authorization to such brokerage firm to complete the transactions described in this sentence.

9.6 Amendment of Award; Repricing. The Administrator may amend, modify or terminate any outstanding Award, including by substituting another Award of the same or a different type or changing the exercise or settlement date. The Participant's consent to such action will be required unless (i) the action, taking into account any related action, does not materially and adversely affect the Participant's rights under the Award, or (ii) the change is permitted under Article VIII or pursuant to Section 10.7. Notwithstanding the foregoing or anything in the Plan to the contrary, the Administrator may, without the approval of the stockholders of the Company, reduce the exercise price per share of outstanding Options or Stock Appreciation Rights or cancel outstanding Options or Stock Appreciation Rights in exchange for cash, other Awards or Options or Stock Appreciation Rights with an exercise price per share that is less than the exercise price per share of the original Options or Stock Appreciation Rights.

9.7 Conditions on Delivery of Stock. The Company will not be obligated to deliver any Shares under the Plan or remove restrictions from Shares previously delivered under the Plan until (i) all Award

conditions have been met or removed to the Company's satisfaction, (ii) as determined by the Company, all other legal matters regarding the issuance and delivery of such Shares have been satisfied, including any applicable securities laws and stock exchange or stock market rules and regulations, and (iii) the Participant has executed and delivered to the Company such representations or agreements as the Administrator deems necessary or appropriate to satisfy any Applicable Laws. The Company's inability to obtain authority from any regulatory body having jurisdiction, which the Administrator determines is necessary to the lawful issuance and sale of any securities, will relieve the Company of any liability for failing to issue or sell such Shares as to which such requisite authority has not been obtained.

9.8 Acceleration. The Administrator may at any time provide that any Award will become immediately vested and fully or partially exercisable, free of some or all restrictions or conditions, or otherwise fully or partially realizable.

9.9 Action Required Upon Grant of Award. Promptly following the grant of an Award, the Company shall, in accordance with NASDAQ Rule 5635(c), (a) issue a press release disclosing the material terms of the Award, including the recipient(s) of the Award and the number of Shares involved and (b) provide written notice to the NASDAQ of the grant.

ARTICLE X. MISCELLANEOUS

10.1 No Right to Employment or Other Status. No person will have any claim or right to be granted an Award, and the grant of an Award will not be construed as giving a Participant the right to continued employment or any other relationship with the Company. The Company expressly reserves the right at any time to dismiss or otherwise terminate its relationship with a Participant free from any liability or claim under the Plan or any Award, except as expressly provided in an Award Agreement.

10.2 No Rights as Stockholder; Certificates. Subject to the Award Agreement, no Participant or Designated Beneficiary will have any rights as a stockholder with respect to any Shares to be distributed under an Award until becoming the record holder of such Shares. Notwithstanding any other provision of the Plan, unless the Administrator otherwise determines or Applicable Laws require, the Company will not be required to deliver to any Participant certificates evidencing Shares issued in connection with any Award and instead such Shares may be recorded in the books of the Company (or, as applicable, its transfer agent or stock plan administrator). The Company may place legends on stock certificates issued under the Plan that the Administrator deems necessary or appropriate to comply with Applicable Laws.

10.3 Effective Date and Term of Plan. Unless earlier terminated by the Board, the Plan will become effective on the date it is approved by the Board and will remain in effect until the tenth anniversary of such date, but Awards previously granted may extend beyond that date in accordance with the Plan.

10.4 Stockholder Approval Not Required. It is expressly intended that approval of the Company's stockholders not be required as a condition of the effectiveness of the Plan, and the Plan's provisions shall be interpreted in a manner consistent with such intent for all purposes. Specifically, NASDAQ Rule 5635(c) generally requires stockholder approval for equity compensation plans adopted by companies whose securities are listed on the NASDAQ Stock Market that provide for the delivery of equity securities to any employees, directors or other service providers of such companies as compensation for services. NASDAQ Rule 5635(c)(4) provides an exemption in certain circumstances for employment inducement awards. Notwithstanding anything to the contrary herein, in accordance with NASDAQ Rule 5635(c)(4), Awards may only be granted as material inducements to Eligible Individuals being hired or rehired as Employees, as applicable, and must be approved by (a) the Board, acting through a majority of the Company's Independent Directors or (b) the independent Compensation Committee of the Board.

Accordingly, pursuant to NASDAQ Rule 5635(c)(4), the issuance of Awards and the Shares issuable upon exercise or vesting of such Awards pursuant to the Plan is not subject to the approval of the Company's stockholders.

10.5 Amendment of Plan. The Administrator may amend, suspend or terminate the Plan at any time; provided that no amendment, other than an increase to the Overall Share Limit, may materially and adversely affect any Award outstanding at the time of such amendment without the affected Participant's consent. No Awards may be granted under the Plan during any suspension period or after Plan termination. Awards outstanding at the time of any Plan suspension or termination will continue to be governed by the Plan and the Award Agreement, as in effect before such suspension or termination. The Board will obtain stockholder approval of any Plan amendment to the extent necessary to comply with Applicable Laws.

10.6 Provisions for Foreign Participants. The Administrator may modify Awards granted to Participants who are foreign nationals or employed outside the United States or establish subplans or procedures under the Plan to address differences in laws, rules, regulations or customs of such foreign jurisdictions with respect to tax, securities, currency, employee benefit or other matters.

10.7 Section 409A.

(a) General. The Company intends that all Awards be structured to comply with, or be exempt from, Section 409A, such that no adverse tax consequences, interest, or penalties under Section 409A apply. Notwithstanding anything in the Plan or any Award Agreement to the contrary, the Administrator may, without a Participant's consent, amend this Plan or Awards, adopt policies and procedures, or take any other actions (including amendments, policies, procedures and retroactive actions) as are necessary or appropriate to preserve the intended tax treatment of Awards, including any such actions intended to (A) exempt this Plan or any Award from Section 409A, or (B) comply with Section 409A, including regulations, guidance, compliance programs and other interpretative authority that may be issued after an Award's grant date. The Company makes no representations or warranties as to an Award's tax treatment under Section 409A or otherwise. The Company will have no obligation under this Section 10.7 or otherwise to avoid the taxes, penalties or interest under Section 409A with respect to any Award and will have no liability to any Participant or any other person if any Award, compensation or other benefits under the Plan are determined to constitute noncompliant "nonqualified deferred compensation" subject to taxes, penalties or interest under Section 409A.

(b) Separation from Service. If an Award constitutes "nonqualified deferred compensation" under Section 409A, any payment or settlement of such Award upon a termination of a Participant's Service Provider relationship will, to the extent necessary to avoid taxes under Section 409A, be made only upon the Participant's "separation from service" (within the meaning of Section 409A), whether such "separation from service" occurs upon or after the termination of the Participant's Service Provider relationship. For purposes of this Plan or any Award Agreement relating to any such payments or benefits, references to a "termination," "termination of employment" or like terms means a "separation from service."

(c) Payments to Specified Employees. Notwithstanding any contrary provision in the Plan or any Award Agreement, any payment(s) of "nonqualified deferred compensation" required to be made under an Award to a "specified employee" (as defined under Section 409A and as the Administrator determines) due to his or her "separation from service" will, to the extent necessary to avoid taxes under Section 409A(a)(2)(B)(i) of the Code, be delayed for the six-month period immediately following such "separation from service" (or, if earlier, until the specified employee's death) and will instead be paid (as set forth in the Award Agreement) on the day immediately

following such six-month period or as soon as administratively practicable thereafter (without interest). Any payments of “nonqualified deferred compensation” under such Award payable more than six months following the Participant’s “separation from service” will be paid at the time or times the payments are otherwise scheduled to be made.

10.8 Limitations on Liability. Notwithstanding any other provisions of the Plan, no individual acting as a director, officer, other employee or agent of the Company or any Subsidiary will be liable to any Participant, former Participant, spouse, beneficiary, or any other person for any claim, loss, liability, or expense incurred in connection with the Plan or any Award, and such individual will not be personally liable with respect to the Plan because of any contract or other instrument executed in his or her capacity as an Administrator, director, officer, other employee or agent of the Company or any Subsidiary. The Company will indemnify and hold harmless each director, officer, other employee and agent of the Company or any Subsidiary that has been or will be granted or delegated any duty or power relating to the Plan’s administration or interpretation, against any cost or expense (including attorneys’ fees) or liability (including any sum paid in settlement of a claim with the Administrator’s approval) arising from any act or omission concerning this Plan unless arising from such person’s own fraud or bad faith.

10.9 Lock-Up Period. The Company may, at the request of any underwriter representative or otherwise, in connection with registering the offering of any Company securities under the Securities Act, prohibit Participants from, directly or indirectly, selling or otherwise transferring any Shares or other Company securities during a period of up to one hundred eighty days following the effective date of a Company registration statement filed under the Securities Act, or such longer period as determined by the underwriter.

10.10 Data Privacy. As a condition for receiving any Award, each Participant explicitly and unambiguously consents to the collection, use and transfer, in electronic or other form, of personal data as described in this section by and among the Company and its Subsidiaries and affiliates exclusively for implementing, administering and managing the Participant’s participation in the Plan. The Company and its Subsidiaries and affiliates may hold certain personal information about a Participant, including the Participant’s name, address and telephone number; birthdate; social security, insurance number or other identification number; salary; nationality; job title(s); any Shares held in the Company or its Subsidiaries and affiliates; and Award details, to implement, manage and administer the Plan and Awards (the “**Data**”). The Company and its Subsidiaries and affiliates may transfer the Data amongst themselves as necessary to implement, administer and manage a Participant’s participation in the Plan, and the Company and its Subsidiaries and affiliates may transfer the Data to third parties assisting the Company with Plan implementation, administration and management. These recipients may be located in the Participant’s country, or elsewhere, and the Participant’s country may have different data privacy laws and protections than the recipients’ country. By accepting an Award, each Participant authorizes such recipients to receive, possess, use, retain and transfer the Data, in electronic or other form, to implement, administer and manage the Participant’s participation in the Plan, including any required Data transfer to a broker or other third party with whom the Company or the Participant may elect to deposit any Shares. The Data related to a Participant will be held only as long as necessary to implement, administer, and manage the Participant’s participation in the Plan. A Participant may, at any time, view the Data that the Company holds regarding such Participant, request additional information about the storage and processing of the Data regarding such Participant, recommend any necessary corrections to the Data regarding the Participant or refuse or withdraw the consents in this Section 10.10 in writing, without cost, by contacting the local human resources representative. The Company may cancel Participant’s ability to participate in the Plan and, in the Administrator’s discretion, the Participant may forfeit any outstanding Awards if the Participant refuses or withdraws the consents in this Section 10.10. For more information on the consequences of refusing or withdrawing consent, Participants may contact their local human resources representative.

10.11 Severability. If any portion of the Plan or any action taken under it is held illegal or invalid for any reason, the illegality or invalidity will not affect the remaining parts of the Plan, and the Plan will be construed and enforced as if the illegal or invalid provisions had been excluded, and the illegal or invalid action will be null and void.

10.12 Governing Documents. If any contradiction occurs between the Plan and any Award Agreement or other written agreement between a Participant and the Company (or any Subsidiary) that the Administrator has approved, the Plan will govern, unless it is expressly specified in such Award Agreement or other written document that a specific provision of the Plan will not apply.

10.13 Governing Law. The Plan and all Awards will be governed by and interpreted in accordance with the laws of the State of Delaware, disregarding any state's choice-of-law principles requiring the application of a jurisdiction's laws other than the State of Delaware.

10.14 Claw-back Provisions. All Awards (including any proceeds, gains or other economic benefit the Participant actually or constructively receives upon receipt or exercise of any Award or the receipt or resale of any Shares underlying the Award) will be subject to any Company claw-back policy, including any claw-back policy adopted to comply with Applicable Laws (including the Dodd-Frank Wall Street Reform and Consumer Protection Act and any rules or regulations promulgated thereunder) as set forth in such claw-back policy or the Award Agreement.

10.15 Titles and Headings. The titles and headings in the Plan are for convenience of reference only and, if any conflict, the Plan's text, rather than such titles or headings, will control.

10.16 Conformity to Securities Laws. Participant acknowledges that the Plan is intended to conform to the extent necessary with Applicable Laws. Notwithstanding anything herein to the contrary, the Plan and all Awards will be administered only in conformance with Applicable Laws. To the extent Applicable Laws permit, the Plan and all Award Agreements will be deemed amended as necessary to conform to Applicable Laws.

10.17 Relationship to Other Benefits. No payment under the Plan will be taken into account in determining any benefits under any pension, retirement, savings, profit sharing, group insurance, welfare or other benefit plan of the Company or any Subsidiary except as expressly provided in writing in such other plan or an agreement thereunder.

10.18 Broker-Assisted Sales. In the event of a broker-assisted sale of Shares in connection with the payment of amounts owed by a Participant under or with respect to the Plan or Awards, including amounts to be paid under the final sentence of Section 9.5: (a) any Shares to be sold through the broker-assisted sale will be sold on the day the payment first becomes due, or as soon thereafter as practicable; (b) such Shares may be sold as part of a block trade with other Participants in the Plan in which all participants receive an average price; (c) the applicable Participant will be responsible for all broker's fees and other costs of sale, and by accepting an Award, each Participant agrees to indemnify and hold the Company harmless from any losses, costs, damages, or expenses relating to any such sale; (d) to the extent the Company or its designee receives proceeds of such sale that exceed the amount owed, the Company will pay such excess in cash to the applicable Participant as soon as reasonably practicable; (e) the Company and its designees are under no obligation to arrange for such sale at any particular price; and (f) in the event the proceeds of such sale are insufficient to satisfy the Participant's applicable obligation, the Participant may be required to pay immediately upon demand to the Company or its designee an amount in cash sufficient to satisfy any remaining portion of the Participant's obligation.

**ARTICLE XI.
DEFINITIONS**

As used in the Plan, the following words and phrases will have the following meanings:

11.1 “**Administrator**” means the Board or a Committee to the extent that the Board’s powers or authority under the Plan have been delegated to such Committee.

11.2 “**Applicable Laws**” means the requirements relating to the administration of equity incentive plans under U.S. federal and state securities, tax and other applicable laws, rules and regulations, the applicable rules of any stock exchange or quotation system on which the Common Stock is listed or quoted and the applicable laws and rules of any foreign country or other jurisdiction where Awards are granted.

11.3 “**Award**” means, individually or collectively, a grant under the Plan of Options, Stock Appreciation Rights, Restricted Stock, Restricted Stock Units or Other Stock or Cash Based Awards.

11.4 “**Award Agreement**” means a written agreement evidencing an Award, which may be electronic, that contains such terms and conditions as the Administrator determines, consistent with and subject to the terms and conditions of the Plan.

11.5 “**Board**” means the Board of Directors of the Company.

11.6 “**Cause**” means (i) if a Participant is a party to a written employment or consulting agreement with the Company or any of its Subsidiaries or an Award Agreement in which the term “cause” is defined (a “**Relevant Agreement**”), “Cause” as defined in the Relevant Agreement, and (ii) if no Relevant Agreement exists, (A) the Administrator’s determination that the Participant failed to substantially perform the Participant’s duties (other than a failure resulting from the Participant’s Disability); (B) the Administrator’s determination that the Participant failed to carry out, or comply with any lawful and reasonable directive of the Board or the Participant’s immediate supervisor; (C) the occurrence of any act or omission by the Participant that could reasonably be expected to result in (or has resulted in) the Participant’s conviction, plea of no contest, plea of nolo contendere, or imposition of unadjudicated probation for any felony or indictable offense or crime involving moral turpitude; (D) the Participant’s unlawful use (including being under the influence) or possession of illegal drugs on the premises of the Company or any of its Subsidiaries or while performing the Participant’s duties and responsibilities for the Company or any of its Subsidiaries; or (E) the Participant’s commission of an act of fraud, embezzlement, misappropriation, misconduct, or breach of fiduciary duty against the Company or any of its Subsidiaries.

11.7 “**Change in Control**” means and includes each of the following:

(a) a transaction or series of transactions (other than an offering of Common Stock to the general public through a registration statement filed with the Securities and Exchange Commission or a transaction or series of transactions that meets the requirements of clauses (i) and (ii) of subsection (c) below) whereby any “person” or related “group” of “persons” (as such terms are used in Sections 13(d) and 14(d)(2) of the Exchange Act) (other than the Company, any of its Subsidiaries, an employee benefit plan maintained by the Company or any of its Subsidiaries or a “person” that, prior to such transaction, directly or indirectly controls, is controlled by, or is under common control with, the Company) directly or indirectly acquires beneficial ownership (within the meaning of Rule 13d-3 under the Exchange Act) of securities of the Company possessing more than 50% of the total combined voting power of the Company’s securities outstanding immediately after such acquisition; or

(b) during any period of two consecutive years, individuals who, at the beginning of such period, constitute the Board together with any new Director(s) (other than a Director designated by a person who shall have entered into an agreement with the Company to effect a transaction described in subsections (a) or (c)) whose election by the Board or nomination for election by the Company's stockholders was approved by a vote of at least two-thirds of the Directors then still in office who either were Directors at the beginning of the two-year period or whose election or nomination for election was previously so approved, cease for any reason to constitute a majority thereof; or

(c) the consummation by the Company (whether directly involving the Company or indirectly involving the Company through one or more intermediaries) of (x) a merger, consolidation, reorganization, or business combination or (y) a sale or other disposition of all or substantially all of the Company's assets in any single transaction or series of related transactions or (z) the acquisition of assets or stock of another entity, in each case other than a transaction:

(i) which results in the Company's voting securities outstanding immediately before the transaction continuing to represent (either by remaining outstanding or by being converted into voting securities of the Company or the person that, as a result of the transaction, controls, directly or indirectly, the Company or owns, directly or indirectly, all or substantially all of the Company's assets or otherwise succeeds to the business of the Company (the Company or such person, the "**Successor Entity**")) directly or indirectly, at least a majority of the combined voting power of the Successor Entity's outstanding voting securities immediately after the transaction, and

(ii) after which no person or group beneficially owns voting securities representing 50% or more of the combined voting power of the Successor Entity; provided, however, that no person or group shall be treated for purposes of this clause (ii) as beneficially owning 50% or more of the combined voting power of the Successor Entity solely as a result of the voting power held in the Company prior to the consummation of the transaction.

Notwithstanding the foregoing, if a Change in Control constitutes a payment event with respect to any Award (or portion of any Award) that provides for the deferral of compensation that is subject to Section 409A, to the extent required to avoid the imposition of additional taxes under Section 409A, the transaction or event described in subsection (a), (b) or (c) with respect to such Award (or portion thereof) shall only constitute a Change in Control for purposes of the payment timing of such Award if such transaction also constitutes a "change in control event," as defined in Treasury Regulation Section 1.409A-3(i)(5).

The Administrator shall have full and final authority, which shall be exercised in its discretion, to determine conclusively whether a Change in Control has occurred pursuant to the above definition, the date of the occurrence of such Change in Control and any incidental matters relating thereto; provided that any exercise of authority in conjunction with a determination of whether a Change in Control is a "change in control event" as defined in Treasury Regulation Section 1.409A-3(i)(5) shall be consistent with such regulation.

11.8 "**Code**" means the Internal Revenue Code of 1986, as amended, and the regulations issued thereunder.

11.9 "**Committee**" means one or more committees or subcommittees of the Board, which may include one or more Company directors or executive officers, to the extent Applicable Laws permit. To the extent required to comply with the provisions of Rule 16b-3, it is intended that each member of the

Committee will be, at the time the Committee takes any action with respect to an Award that is subject to Rule 16b-3, a “non-employee director” within the meaning of Rule 16b-3; however, a Committee member’s failure to qualify as a “non-employee director” within the meaning of Rule 16b-3 will not invalidate any Award granted by the Committee that is otherwise validly granted under the Plan.

11.10 “**Common Stock**” means the common stock of the Company.

11.11 “**Company**” means Lyra Therapeutics, Inc., a Delaware corporation, or any successor.

11.12 “**Consultant**” means any person, including any adviser, engaged by the Company or its parent or Subsidiary to render services to such entity if the consultant or adviser: (i) renders bona fide services to the Company; (ii) renders services not in connection with the offer or sale of securities in a capital-raising transaction and does not directly or indirectly promote or maintain a market for the Company’s securities; and (iii) is a natural person.

11.13 “**Designated Beneficiary**” means the beneficiary or beneficiaries the Participant designates, in a manner the Administrator determines, to receive amounts due or exercise the Participant’s rights if the Participant dies or becomes incapacitated. Without a Participant’s effective designation, “Designated Beneficiary” will mean the Participant’s estate.

11.14 “**Director**” means a Board member.

11.15 “**Disability**” means a permanent and total disability under Section 22(e)(3) of the Code, as amended.

11.16 “**Dividend Equivalents**” means a right granted to a Participant under the Plan to receive the equivalent value (in cash or Shares) of dividends paid on Shares.

11.17 “**Eligible Individual**” means any individual who was not previously an Employee or Director hired as a new Employee or rehired as an Employee following a bona fide period of interruption of employment if such person is granted an Award as a material inducement to his or her entering into employment with the Company or a Subsidiary (within the meaning of the NASDAQ Rule 5635(c)(4)).

11.18 “**Employee**” means any employee of the Company or its Subsidiaries.

11.19 “**Equity Restructuring**” means a nonreciprocal transaction between the Company and its stockholders, such as a stock dividend, stock split, spin-off or recapitalization through a large, nonrecurring cash dividend, that affects the number or kind of Shares (or other Company securities) or the share price of Common Stock (or other Company securities) and causes a change in the per share value of the Common Stock underlying outstanding Awards.

11.20 “**Exchange Act**” means the Securities Exchange Act of 1934, as amended.

11.21 “**Fair Market Value**” means, as of any date, the value of Common Stock determined as follows: (i) if the Common Stock is listed on any established stock exchange, its Fair Market Value will be the closing sales price for such Common Stock as quoted on such exchange for such date, or if no sale occurred on such date, the last day preceding such date during which a sale occurred, as reported in The Wall Street Journal or another source the Administrator deems reliable; (ii) if the Common Stock is not traded on a stock exchange but is quoted on a national market or other quotation system, the closing sales price on such date, or if no sales occurred on such date, then on the last date preceding such date during which a sale occurred, as reported in The Wall Street Journal or another source the Administrator deems

reliable; or (iii) without an established market for the Common Stock, the Administrator will determine the Fair Market Value in its discretion.

11.22 **“Incentive Stock Option”** means an Option intended to qualify as an “incentive stock option” as defined in Section 422 of the Code.

11.23 **“Independent Director”** means a Director who qualifies as “independent” within the meaning of NASDAQ Rule 5635(c)(4), or any successor rule, as such rule may be amended from time to time.

11.24 **“NASDAQ Rule 5635(c)(4)”** means NASDAQ Rule 5635(c)(4), or any successor rule, and all guidance and other interpretative authority thereunder, as such rule, guidance and other authority may be amended from time to time.

11.25 **“Non-Qualified Stock Option”** means an Option not intended to qualify as an Incentive Stock Option.

11.26 **“Option”** means an option to purchase Shares.

11.27 **“Other Stock or Cash Based Awards”** means cash awards, awards of Shares, and other awards valued wholly or partially by referring to, or are otherwise based on, Shares or other property.

11.28 **“Overall Share Limit”** means 2,413,002 Shares.

11.29 **“Participant”** means an Eligible Individual who has been granted an Award.

11.30 **“Performance Criteria”** mean the criteria (and adjustments) that the Administrator may select for an Award to establish performance goals for a performance period, which may include the following: net earnings or losses (either before or after one or more of interest, taxes, depreciation, amortization, and non-cash equity-based compensation expense); gross or net sales or revenue or sales or revenue growth; net income (either before or after taxes) or adjusted net income; profits (including but not limited to gross profits, net profits, profit growth, net operation profit or economic profit), profit return ratios or operating margin; budget or operating earnings (either before or after taxes or before or after allocation of corporate overhead and bonus); cash flow (including operating cash flow and free cash flow or cash flow return on capital); return on assets; return on capital or invested capital; cost of capital; return on stockholders’ equity; total stockholder return; return on sales; costs, reductions in costs and cost control measures; expenses; working capital; earnings or loss per share; adjusted earnings or loss per share; price per share or dividends per share (or appreciation in or maintenance of such price or dividends); regulatory achievements or compliance; implementation, completion or attainment of objectives relating to research, development, regulatory, commercial, or strategic milestones or developments; market share; economic value or economic value added models; division, group or corporate financial goals; customer satisfaction/growth; customer service; employee satisfaction; recruitment and maintenance of personnel; human resources management; supervision of litigation and other legal matters; strategic partnerships and transactions; financial ratios (including those measuring liquidity, activity, profitability or leverage); debt levels or reductions; sales-related goals; financing and other capital raising transactions; cash on hand; acquisition activity; investment sourcing activity; and marketing initiatives, any of which may be measured in absolute terms or as compared to any incremental increase or decrease. Such performance goals also may be based solely by reference to the Company’s performance or the performance of a Subsidiary, division, business segment or business unit of the Company or a Subsidiary, or based upon performance relative to performance of other companies or upon comparisons of any of the indicators of performance relative to performance of other companies. The Committee may provide for exclusion of the impact of an event or

occurrence which the Committee determines should appropriately be excluded, including (a) restructurings, discontinued operations, extraordinary items, and other unusual, infrequently occurring or non-recurring charges or events, (b) asset write-downs, (c) litigation or claim judgments or settlements, (d) acquisitions or divestitures, (e) reorganization or change in the corporate structure or capital structure of the Company, (f) an event either not directly related to the operations of the Company, Subsidiary, division, business segment or business unit or not within the reasonable control of management, (g) foreign exchange gains and losses, (h) a change in the fiscal year of the Company, (i) the refinancing or repurchase of bank loans or debt securities, (j) unbudgeted capital expenditures, (k) the issuance or repurchase of equity securities and other changes in the number of outstanding shares, (l) conversion of some or all of convertible securities to Common Stock, (m) any business interruption event, (n) the cumulative effects of tax or accounting changes in accordance with U.S. generally accepted accounting principles, or (o) the effect of changes in other laws or regulatory rules affecting reported results.

11.31 “**Plan**” means this 2022 Employment Inducement Award Plan, as it may be amended and/or restated from time to time.

11.32 “**Restricted Stock**” means Shares awarded to a Participant under Article VI subject to certain vesting conditions and other restrictions.

11.33 “**Restricted Stock Unit**” means an unfunded, unsecured right to receive, on the applicable settlement date, one Share or an amount in cash or other consideration determined by the Administrator to be of equal value as of such settlement date, subject to certain vesting conditions and other restrictions.

11.34 “**Rule 16b-3**” means Rule 16b-3 promulgated under the Exchange Act.

11.35 “**Section 409A**” means Section 409A of the Code and all regulations, guidance, compliance programs and other interpretative authority thereunder.

11.36 “**Securities Act**” means the Securities Act of 1933, as amended.

11.37 “**Service Provider**” means an Employee, Consultant or Director.

11.38 “**Shares**” means shares of Common Stock.

11.39 “**Stock Appreciation Right**” means a stock appreciation right granted under Article V.

11.40 “**Subsidiary**” means any entity (other than the Company), whether domestic or foreign, in an unbroken chain of entities beginning with the Company if each of the entities other than the last entity in the unbroken chain beneficially owns, at the time of the determination, securities or interests representing at least 50% of the total combined voting power of all classes of securities or interests in one of the other entities in such chain.

11.41 “**Termination of Service**” means the date the Participant ceases to be a Service Provider.

* * * * *

Employment Agreement

This Employment Agreement (this “Agreement”), dated as of February 2, 2023, is made by and between Lyra Therapeutics, Inc., a Delaware corporation (together with any successor thereto, the “Company”), and **John Bishop** (“Executive”) (collectively referred to herein as the “Parties” or individually referred to as a “Party”).

RECITALS

- A. It is the desire of the Company to assure itself of the services of Executive commencing on or about February 27, 2023 (the actual date Executive commences employment, the “Start Date”) and thereafter by entering into this Agreement.
- B. Executive and the Company mutually desire that Executive provide services to the Company on the terms herein provided.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing and of the respective covenants and agreements set forth below, the Parties hereto agree as follows:

1. Employment.

(a) General. Effective upon the Start Date, the Company shall employ Executive, and Executive shall be employed by the Company, for the period and in the positions set forth in this Section 1, and subject to the other terms and conditions herein provided.

(b) At-Will Employment. The Company and Executive acknowledge that Executive’s employment is and shall continue to be “at-will,” as defined under applicable law, and that Executive’s employment with the Company may be terminated by either Party at any time for any or no reason (subject to the notice requirements of Section 3(b)). This “at-will” nature of Executive’s employment shall remain unchanged during Executive’s tenure as an employee and may not be changed, except in an express writing signed by Executive and a duly authorized officer of the Company. If Executive’s employment terminates for any reason, Executive shall not be entitled to any payments, benefits, damages, award or compensation other than as provided in this Agreement or otherwise agreed to in writing by the Company or as provided by applicable law. The term of this Agreement (the “Term”) shall commence on the Start Date and end on the date this Agreement is terminated under Section 3.

(c) Positions and Duties. During the Term, Executive shall serve as Chief Technology Officer, with such responsibilities, duties and authority normally associated with such position and as may from time to time be assigned to Executive by the Chief Executive Officer of the Company. Executive shall devote substantially all of Executive’s working time and efforts to the business and affairs of the Company (which shall include service to its affiliates, if applicable) and shall not engage in outside business activities (including serving on outside boards or committees) without the consent of the Board of Directors of the Company or an authorized committee of the thereof (in either case, the

“Board”), provided that Executive shall be permitted to (i) manage Executive’s personal, financial and legal affairs, (ii) participate in trade associations, and (iii) serve on the board of directors of not-for-profit or tax-exempt charitable organizations, in each case, subject to compliance with this Agreement and provided that such activities do not materially interfere with Executive’s performance of Executive’s duties and responsibilities hereunder. Executive agrees to observe and comply with the rules and policies of the Company as adopted by the Company from time to time, in each case, as amended from time to time, and as delivered or made available to Executive (collectively, the “Policies” and, each, a “Policy”).

2.Compensation and Related Matters.

(a) Annual Base Salary. During the Term, Executive shall receive a base salary at a rate of \$455,000 per annum, which shall be paid in accordance with the customary payroll practices of the Company and shall be pro-rated for partial years of employment. Such annual base salary shall be reviewed (and may be adjusted) from time to time by the Board (such annual base salary, as it may be in effect from time to time, the “Annual Base Salary”).

(b) Annual Cash Bonus Opportunity. During the Term, Executive will be eligible to participate in an annual incentive program established by the Board. Executive’s annual incentive compensation under such incentive program (the “Annual Bonus”) shall be targeted at forty (40%) of Executive’s Annual Base Salary (such target, as may be increased by the Board from time to time, the “Target Annual Bonus”). The Annual Bonus payable under the incentive program shall be based on the achievement of performance goals to be determined by the Board. Executive’s Annual Bonus, if earned (as determined by the Board in its discretion), for the 2023 fiscal year will be pro-rated for Executive’s partial year of employment based on the number of days that Executive is employed by the Company during the 2023 fiscal year. The payment of any Annual Bonus pursuant to the incentive program shall be subject to Executive’s continued employment with the Company through the date of payment, except as otherwise provided in Section 4(b). In addition, we will provide you with a \$68,000 signing bonus for repayment of a bonus to your previous employer. This signing bonus will be paid after your first 30 days of employment and with the proper documentation showing the funds are owed to your previous employer. If you voluntarily leave employment with the Company within one year of hire, this signing bonus must be repaid to the Company on a pro-rated basis.

(c) Stock Option. Subject to the approval of the Board, Executive will be granted an option to purchase 220,000 shares of the common stock of the Company at an exercise price equal to the closing price per share of the Company’s common stock on the date of grant or the last trading day preceding the date of grant if the date of grant is not a trading day (the “Option”). Subject to Executive’s continued service to the Company through each applicable vesting date, twenty-five percent (25%) of the shares subject to the Option will vest on the first (1st) anniversary of the Start Date, and the remaining shares subject to the Option will vest in thirty-six (36) substantially equal monthly installments thereafter, such that the Option will be fully vested on the fourth anniversary of the Start Date. The Option will be subject to the terms of the Company’s 2022 Employment Inducement Award Plan (the “Plan”) and a stock option agreement (on the Company’s form of stock option agreement under the Plan) to be entered into between Executive and the Company.

(d) Benefits. During the Term, Executive shall be eligible to participate in employee benefit plans, programs and arrangements of the Company (including medical, dental and 401(k) plans), subject to the terms and eligibility requirements thereof and as such plans, programs and arrangements may be amended from time to time. In no event shall Executive be eligible to participate in any severance plan or program of the Company, except as set forth in Section 4 of this Agreement.

(e) Vacation. During the Term, Executive shall be entitled to paid personal leave in accordance with the Company's Policies. Any vacation shall be taken at the reasonable and mutual convenience of the Company and Executive.

(f) Business Expenses. During the Term, the Company shall reimburse Executive for all reasonable travel and other business expenses incurred by Executive in the performance of Executive's duties to the Company in accordance with the Company's expense reimbursement Policy.

(g) Key Person Insurance. At any time during the Term, the Company shall have the right (but not the obligation) to insure the life of Executive for the Company's sole benefit. The Company shall have the right to determine the amount of insurance and the type of policy. Executive shall reasonably cooperate with the Company in obtaining such insurance by submitting to physical examinations, by supplying all information reasonably required by any insurance carrier and by executing all necessary documents reasonably required by any insurance carrier, provided that any information provided to an insurance company or broker shall not be provided to the Company without the prior written authorization of Executive. Executive shall incur no financial obligation by executing any required document and shall have no interest in any such policy.

3.Termination.

Both Executive's employment hereunder and the Term may be terminated by the Company or Executive, as applicable, without any breach of this Agreement under the following circumstances:

(a) Circumstances.

(i) *Death*. Executive's employment hereunder shall terminate upon Executive's death.

(ii) *Disability*. If Executive has incurred a Disability, as defined below, the Company may terminate Executive's employment, provided that such termination would not violate any federal or state disability, paid family leave or other similar applicable law.

(iii) *Termination for Cause*. The Company may terminate Executive's employment for Cause, as defined below.

(iv) *Termination without Cause*. The Company may terminate Executive's employment without Cause.

(v) *Resignation from the Company with Good Reason*. Executive may resign Executive's employment with the Company with Good Reason, as defined below.

(vi) *Resignation from the Company without Good Reason.* Executive may resign Executive's employment with the Company for any reason other than Good Reason or for no reason.

(b) Notice of Termination. Any termination of Executive's employment by the Company or by Executive under this Section 3 (other than termination pursuant to Section 3(a)(i)) shall be communicated by a written notice to the other Party hereto (i) indicating the specific termination provision in this Agreement relied upon, (ii) setting forth in reasonable detail the facts and circumstances claimed to provide a basis for termination of Executive's employment under the provision so indicated, if applicable, and (iii) specifying a Date of Termination (as defined below) which, if submitted by Executive, shall be at least thirty (30) days following the date of such notice (a "Notice of Termination"); *provided, however*, that in the event that Executive delivers a Notice of Termination to the Company, the Company may, in its sole discretion, change the Date of Termination to any date that occurs following the date of the Company's receipt of such Notice of Termination and is prior to the date specified in such Notice of Termination, but the termination will still be considered a resignation by Executive. A Notice of Termination submitted by the Company may provide for a Date of Termination on the date Executive receives the Notice of Termination, or any date thereafter elected by the Company. The failure by either Party to set forth in the Notice of Termination any fact or circumstance which contributes to a showing of Cause or Good Reason shall not waive any right of the Party hereunder or preclude the Party from asserting such fact or circumstance in enforcing the Party's rights hereunder.

(c) Company Obligations upon Termination. Upon termination of Executive's employment pursuant to any of the circumstances listed in this Section 3, Executive (or Executive's estate) shall be entitled to receive the sum of: (i) the portion of Executive's Annual Base Salary earned through the Date of Termination, but not yet paid to Executive; (ii) any expense reimbursements owed to Executive pursuant to Section 2(f); and (iii) any amount accrued and arising from Executive's participation in, or benefits accrued under any employee benefit plans, programs or arrangements, which amounts shall be payable in accordance with the terms and conditions of such employee benefit plans, programs or arrangements (collectively, the "Company Arrangements"). Except as otherwise expressly required by law (e.g., the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA")) or as specifically provided herein, all of Executive's rights to salary, severance, benefits, bonuses and other compensatory amounts hereunder (if any) shall cease upon the termination of Executive's employment hereunder. In the event that Executive's employment is terminated by the Company for any reason, Executive's sole and exclusive remedy shall be to receive the payments and benefits described in this Section 3(c) or Section 4, as applicable.

(d) Deemed Resignation. Upon termination of Executive's employment for any reason, Executive shall be deemed to have resigned from all offices and directorships, if any, then held with the Company or any of its subsidiaries.

4. Severance Payments.

(a) Termination for Cause, or Termination Upon Death, Disability or Resignation from the Company Without Good Reason. If Executive's employment shall terminate as a result of Executive's death pursuant to Section 3(a)(i), as a result of Disability pursuant to Section 3(a)(ii), for Cause pursuant to Section 3(a)(iii) or for Executive's resignation from

the Company without Good Reason pursuant to Section 3(a)(iv), then Executive shall not be entitled to any severance payments or benefits, except as provided in Section 3(c).

(b) Termination without Cause, or Resignation from the Company with Good Reason. If Executive's employment terminates without Cause pursuant to Section 3(a)(iv), or pursuant to Section 3(a)(v) due to Executive's resignation with Good Reason, then, subject to Executive signing on or before the twenty-first (21st) day following Executive's Separation from Service (as defined below) or in the event that such Separation from Service is "in connection with an exit incentive or other employment termination program" (as such phrase is defined in the Age Discrimination in Employment Act of 1967, as amended) on or before the forty-fifth (45th) day following Executive's Separation from Service, and not revoking, a release of claims substantially in the form attached as Exhibit A to this Agreement (the "Release"), and Executive's continued compliance with Section 5, Executive shall receive, in addition to payments and benefits set forth in Section 3(c), the following:

(i) an amount in cash equal to 0.75 times the Annual Base Salary, payable in the form of salary continuation in regular installments over the nine (9)-month period following the date of Executive's Separation from Service (the "Severance Period") in accordance with the Company's normal payroll practices;

(ii) to the extent unpaid as of the Date of Termination, an amount of cash equal to any Annual Bonus earned by Executive for the Company's fiscal year prior to the fiscal year in which the Date of Termination occurs, as determined by the Board in its discretion based upon actual performance achieved, which Annual Bonus, if any, shall be paid to Executive in the fiscal year in which the Date of Termination occurs when bonuses for such prior fiscal year are paid in the ordinary course to actively employed senior executives of the Company; and

(iii) if Executive timely elects to receive continued medical, dental or vision coverage under one or more of the Company's group medical, dental or vision plans pursuant to COBRA, then the Company shall directly pay, or reimburse Executive for, the COBRA premiums for Executive and Executive's covered dependents under such plans, less the amount Executive would have had to pay to receive such coverage as an active employee based on the cost sharing levels in effect on the Date of Termination, during the period commencing on Executive's Separation from Service and ending upon the earliest of (X) the last day of the Severance Period, (Y) the date that Executive and/or Executive's covered dependents become no longer eligible for COBRA or (Z) the date Executive becomes eligible to receive medical, dental or vision coverage, as applicable, from a subsequent employer (and Executive agrees to promptly notify the Company of such eligibility). Notwithstanding the foregoing, if the Company determines in its sole discretion that it cannot provide the foregoing benefit without potentially violating applicable law (including, without limitation, Section 2716 of the Public Health Service Act) or incurring an excise tax or that the foregoing benefit may be discriminatory under Section 105(h) of the Code, the Company shall in lieu thereof provide to Executive a taxable monthly payment in an amount equal to the monthly COBRA premium that Executive would be required to pay to continue Executive's and Executive's covered dependents' group health coverage in effect on the Date of Termination (which amount shall be based on the premium for the first month of COBRA coverage), less the amount Executive would have had to pay to receive group health coverage as an active employee for Executive and Executive's covered dependents based on the cost sharing levels in effect on the Date of Termination, which payments shall be made regardless of whether Executive elects COBRA continuation coverage and shall commence in the month following the month in which

the Date of Termination occurs and shall end on the earliest of (X) the last day of the Severance Period, (Y) the date that Executive and/or Executive's covered dependents become no longer eligible for COBRA or (Z) the date Executive becomes eligible to receive healthcare coverage from a subsequent employer (and Executive agrees to promptly notify the Company of such eligibility).

(c) Change in Control. In lieu of the payments and benefits set forth in Section 4(b), in the event Executive's employment terminates without Cause pursuant to Section 3(a)(iv), or due to Executive's resignation with Good Reason pursuant to Section 3(a)(v), in either case, within three (3) months prior or twelve (12) months following the date of a Change in Control, subject to Executive signing on or before the twenty-first (21st) day following Executive's Separation from Service or in the event that such Separation from Service is "in connection with an exit incentive or other employment termination program" (as such phrase is defined in the Age Discrimination in Employment Act of 1967, as amended) on or before the forty-fifth (45th) day following Executive's Separation from Service, and not revoking, the Release, Executive shall receive, in addition to the payments and benefits set forth in Section 3(c), the following:

(i) an amount in cash equal to 1.0 times the sum of (A) the Annual Base Salary plus (B) the Target Annual Bonus, payable in equal installments over the twelve (12)-month period following the date of Executive's Separation from Service (the "CIC Severance Period") in accordance with the Company's normal payroll practices;

(ii) the payment set forth in Section 4(b)(ii);

(iii) the benefits set forth in Section 4(b)(iii), provided that the "Severance Period" will mean the CIC Severance Period; and

(iv) all unvested equity or equity-based awards held by Executive under any Company equity compensation plans that vest solely based on the passage of time shall immediately become one hundred percent (100%) vested (for the avoidance of doubt, with any such awards that vest in whole or in part based on the attainment of performance-vesting conditions being governed by the terms of the applicable award agreement).

(d) Survival. Notwithstanding anything to the contrary in this Agreement, the provisions of Sections 5 through 9 will survive the termination of Executive's employment and the termination of the Term.

5. Restrictive Covenants. As a condition to the effectiveness of this Agreement and Executive's employment by the Company, Executive will execute and deliver to the Company contemporaneously herewith the Employee Proprietary Information and Inventions Assignment Agreement attached hereto as Exhibit B (the "Restrictive Covenant Agreement"). Executive agrees to abide by the terms of the Restrictive Covenant Agreement, which are hereby incorporated by reference into this Agreement. Executive acknowledges that the provisions of the Restrictive Covenant Agreement will survive the termination of Executive's employment and the termination of the Term for the periods set forth in the Restrictive Covenant Agreement.

6. Assignment and Successors.

The Company may assign its rights and obligations under this Agreement to any of its affiliates or to any successor to all or substantially all of the business or the assets of the Company (by merger or otherwise), and may assign or encumber this Agreement and its rights hereunder as security for indebtedness of the Company and its affiliates. This Agreement shall be binding upon and inure to the benefit of the Company, Executive and their respective successors, assigns, personnel and legal representatives, executors, administrators, heirs, distributees, devisees, and legatees, as applicable. None of Executive's rights or obligations may be assigned or transferred by Executive, other than Executive's rights to payments hereunder, which may be transferred only by will or operation of law. Notwithstanding the foregoing, Executive shall be entitled, to the extent permitted under applicable law and applicable Company Arrangements, to select and change a beneficiary or beneficiaries to receive compensation hereunder following Executive's death by giving written notice thereof to the Company.

7. Certain Definitions.

(a) Cause. The Company shall have "Cause" to terminate Executive's employment hereunder upon:

(i) The Board's reasonable, good faith determination that Executive has refused to (A) substantially perform the duties associated with Executive's position with the Company or (B) carry out the reasonable and lawful instructions of the Board concerning duties or actions consistent with Executive's position with the Company;

(ii) Executive's breach of a material provision of this Agreement that, to the extent capable of cure, has remained uncured for a period of thirty (30) days following written notice from the Company;

(iii) Executive's conviction, plea of no contest, plea of *nolo contendere*, or imposition of unadjudicated probation for any felony or crime involving moral turpitude;

(iv) Executive's unlawful use (including being under the influence) or possession of illegal drugs on the Company's (or any of its affiliate's) premises or while performing Executive's duties and responsibilities under this Agreement; or

(v) Executive's commission of any act of fraud, embezzlement, misappropriation, willful misconduct, or breach of fiduciary duty against the Company or any of its affiliates.

(b) Change in Control. "Change in Control" shall have the meaning set forth in the Plan.

(c) Code. "Code" shall mean the Internal Revenue Code of 1986, as amended, and the regulations and guidance promulgated thereunder.

(d) Date of Termination. "Date of Termination" shall mean (i) if Executive's employment is terminated by Executive's death, the date of Executive's death; or (ii) if Executive's employment is terminated pursuant to Section 3(a)(ii) – (vi) either the date indicated in the Notice of Termination or the date specified by the Company pursuant to Section 3(b), whichever is earlier.

(e) Disability. “Disability” shall mean, at any time the Company or any of its affiliates sponsors a long-term disability plan for the Company’s employees, “disability” as defined in such long-term disability plan for the purpose of determining a participant’s eligibility for benefits, *provided, however*, if the long-term disability plan contains multiple definitions of disability, “Disability” shall refer to that definition of disability which, if Executive qualified for such disability benefits, would provide coverage for the longest period of time. The determination of whether Executive has a Disability shall be made by the person or persons required to make disability determinations under the long-term disability plan. At any time the Company does not sponsor a long-term disability plan for its employees, “Disability” shall mean Executive’s inability to perform, with or without reasonable accommodation, the essential functions of Executive’s positions hereunder for a total of three (3) months during any six (6)-month period as a result of incapacity due to mental or physical illness as determined by a physician selected by the Company or its insurers and acceptable to Executive or Executive’s legal representative, with such agreement as to acceptability not to be unreasonably withheld or delayed. Any refusal by Executive to submit to a medical examination for the purpose of determining Disability shall be deemed to constitute conclusive evidence of Executive’s Disability.

(f) Good Reason. For the sole purpose of determining Executive’s right to severance payments and benefits as described above, Executive’s resignation will be with “Good Reason” if Executive resigns within ninety (90) days after any of the following events, unless Executive consents in writing to the applicable event: (i) a reduction in Executive’s Annual Base Salary or Target Annual Bonus, other than a reduction of twenty percent (20%) or less of Executive’s Annual Base Salary implemented as part of an across the board, proportionate reduction of base salaries for other members of the Company’s management team, (ii) a material decrease in Executive’s authority or areas of responsibility as are commensurate with Executive’s title or position with the Company, (iii) the relocation of Executive’s primary office to a location more than fifty (50) miles from Executive’s primary office as of the date of this Agreement or (iv) the Company’s breach of a material provision of this Agreement. Notwithstanding the foregoing, no Good Reason will have occurred unless and until Executive has: (a) provided the Company, within sixty (60) days of Executive’s knowledge of the occurrence of the facts and circumstances underlying the Good Reason event, written notice stating with specificity the applicable facts and circumstances underlying such finding of Good Reason; (b) provided the Company with an opportunity to cure the same within thirty (30) days after the receipt of such notice; and (c) the Company shall have failed to so cure within such period.

8. Parachute Payments.

(a) Notwithstanding any other provisions of this Agreement or any Company equity plan or agreement, in the event that any payment or benefit by the Company or otherwise to or for the benefit of Executive, whether paid or payable or distributed or distributable pursuant to the terms of this Agreement or otherwise (all such payments and benefits, including the payments and benefits under Section 4 hereof, being hereinafter referred to as the “Total Payments”), would be subject (in whole or in part) to the excise tax imposed by Section 4999 of the Code (the “Excise Tax”), then the Total Payments shall be reduced (in the order provided in Section 8(b)) to the minimum extent necessary to avoid the imposition of the Excise Tax on the Total Payments, but only if (i) the net amount of such Total Payments, as so reduced (and after subtracting the net amount of federal, state and local income and employment taxes on such reduced Total Payments and after taking into

account the phase out of itemized deductions and personal exemptions attributable to such reduced Total Payments), is greater than or equal to (ii) the net amount of such Total Payments without such reduction (but after subtracting the net amount of federal, state and local income and employment taxes on such Total Payments and the amount of the Excise Tax to which Executive would be subject in respect of such unreduced Total Payments and after taking into account the phase out of itemized deductions and personal exemptions attributable to such unreduced Total Payments).

(b) The Total Payments shall be reduced in the following order: (i) reduction on a pro-rata basis of any cash severance payments that are exempt from Section 409A of the Code (“Section 409A”), (ii) reduction on a pro-rata basis of any non-cash severance payments or benefits that are exempt from Section 409A, (iii) reduction on a pro-rata basis of any other payments or benefits that are exempt from Section 409A and (iv) reduction of any payments or benefits otherwise payable to Executive on a pro-rata basis or such other manner that complies with Section 409A; provided, in case of clauses (ii), (iii) and (iv), that reduction of any payments attributable to the acceleration of vesting of Company equity awards shall be first applied to Company equity awards that would otherwise vest last in time.

(c) All determinations regarding the application of this Section 8 shall be made by an accounting firm or consulting group with experience in performing calculations regarding the applicability of Section 280G of the Code and the Excise Tax selected by the Company (the “Independent Advisors”). For purposes of determinations, no portion of the Total Payments shall be taken into account which, in the opinion of the Independent Advisors, (i) does not constitute a “parachute payment” within the meaning of Section 280G(b)(2) of the Code (including by reason of Section 280G(b)(4)(A) of the Code) or (ii) constitutes reasonable compensation for services actually rendered, within the meaning of Section 280G(b)(4)(B) of the Code, in excess of the “base amount” (as defined in Section 280G(b)(3) of the Code) allocable to such reasonable compensation. The costs of obtaining such determination and all related fees and expenses (including related fees and expenses incurred in any later audit) shall be borne by the Company.

(d) In the event it is later determined that a greater reduction in the Total Payments should have been made to implement the objective and intent of this Section 8, the excess amount shall be returned promptly by Executive to the Company.

9. Miscellaneous Provisions.

(a) Governing Law. This Agreement shall be governed, construed, interpreted and enforced in accordance with its express terms, and otherwise in accordance with the substantive laws of the Commonwealth of Massachusetts without reference to the principles of conflicts of law of the Commonwealth of Massachusetts or any other jurisdiction that would result in the application of the laws of a jurisdiction other than the Commonwealth of Massachusetts, and where applicable, the laws of the United States.

(b) Validity. The invalidity or unenforceability of any provision or provisions of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement, which shall remain in full force and effect.

(c) Notices. Any notice, request, claim, demand, document and other communication hereunder to any Party shall be effective upon receipt (or refusal of receipt) and shall be in writing and delivered personally or sent by facsimile or certified or registered mail, postage prepaid, as follows:

- (i) If to the Company, to the Chief Executive Officer of the Company at the Company's headquarters,
- (ii) If to Executive, to the last address that the Company has in its personnel records for Executive, or
- (iii) At any other address as any Party shall have specified by notice in writing to the other Party.

(d) Counterparts. This Agreement may be executed in several counterparts, each of which shall be deemed to be an original, but all of which together will constitute one and the same Agreement. Signatures delivered by facsimile or PDF shall be deemed effective for all purposes.

(e) Entire Agreement. The terms of this Agreement, and the Restrictive Covenant Agreement incorporated herein by reference as set forth in Section 5, are intended by the Parties to be the final expression of their agreement with respect to the subject matter hereof and supersede all prior understandings and agreements, whether written or oral, including any prior employment offer letter or employment agreement between Executive and the Company. The Parties further intend that this Agreement shall constitute the complete and exclusive statement of their terms and that no extrinsic evidence whatsoever may be introduced in any judicial, administrative or other legal proceeding to vary the terms of this Agreement.

(f) Amendments; Waivers. This Agreement may not be modified, amended or terminated except by an instrument in writing, signed by Executive and a duly authorized officer of Company. By an instrument in writing similarly executed, Executive or a duly authorized officer of the Company may waive compliance by the other Party with any specifically identified provision of this Agreement that such other Party was or is obligated to comply with or perform; *provided, however*, that such waiver shall not operate as a waiver of, or estoppel with respect to, any other or subsequent failure. No failure to exercise and no delay in exercising any right, remedy or power hereunder will preclude any other or further exercise of any other right, remedy or power provided herein or by law or in equity.

(g) Construction. This Agreement shall be deemed drafted equally by both the Parties. Its language shall be construed as a whole and according to its fair meaning. Any presumption or principle that the language is to be construed against any Party shall not apply. The headings in this Agreement are only for convenience and are not intended to affect construction or interpretation. Any references to paragraphs, subparagraphs, sections or subsections are to those parts of this Agreement, unless the context clearly indicates to the contrary. Also, unless the context clearly indicates to the contrary, (i) the plural includes the singular and the singular includes the plural; (ii) "and" and "or" are each used both conjunctively and disjunctively; (iii) "any," "all," "each," or "every" means "any and all" and "each and every"; (iv) "includes" and "including" are each "without limitation"; (v) "herein," "hereof," "hereunder" and other similar compounds of the word "here" refer to the

entire Agreement and not to any particular paragraph, subparagraph, section or subsection; and (vi) all pronouns and any variations thereof shall be deemed to refer to the masculine, feminine, neuter, singular or plural as the identity of the entities or persons referred to may require.

(h) Arbitration. Any controversy, claim or dispute arising out of or relating to this Agreement, shall be settled solely and exclusively by a binding arbitration process administered by JAMS/Endispute in Boston, Massachusetts. Such arbitration shall be conducted in accordance with the then-existing JAMS/Endispute Rules of Practice and Procedure, with the following exceptions if in conflict: (i) one arbitrator who is a retired judge shall be chosen by JAMS/Endispute; (ii) each Party to the arbitration will pay one-half of the expenses and fees of the arbitrator, together with other expenses of the arbitration incurred or approved by the arbitrator; and (iii) arbitration may proceed in the absence of any Party if written notice (pursuant to the JAMS/Endispute rules and regulations) of the proceedings has been given to such Party. Each Party shall bear its own attorney's fees and expenses; provided that the arbitrator may assess the prevailing Party's fees and costs against the non-prevailing Party as part of the arbitrator's award. The Parties agree to abide by all decisions and awards rendered in such proceedings. Such decisions and awards rendered by the arbitrator shall be final and conclusive. All such controversies, claims or disputes shall be settled in this manner in lieu of any action at law or equity; provided, however, that nothing in this subsection shall be construed as precluding the bringing of an action for injunctive relief or specific performance as provided in this Agreement or the Restrictive Covenant Agreement. This dispute resolution process and any arbitration hereunder shall be confidential and neither any Party nor the neutral arbitrator shall disclose the existence, contents or results of such process without the prior written consent of all Parties, except where necessary or compelled in a court to enforce this arbitration provision or an award from such arbitration or otherwise in a legal proceeding. If JAMS/Endispute no longer exists or is otherwise unavailable, the Parties agree that the American Arbitration Association ("AAA") shall administer the arbitration in accordance with its then-existing rules as modified by this subsection. In such event, all references herein to JAMS/Endispute shall mean AAA. Notwithstanding the foregoing, Executive and the Company each have the right to resolve any issue or dispute over intellectual property rights by court action instead of arbitration.

(i) Enforcement. If any provision of this Agreement is held to be illegal, invalid or unenforceable under present or future laws effective during the Term, such provision shall be fully severable; this Agreement shall be construed and enforced as if such illegal, invalid or unenforceable provision had never comprised a portion of this Agreement; and the remaining provisions of this Agreement shall remain in full force and effect and shall not be affected by the illegal, invalid or unenforceable provision or by its severance from this Agreement. Furthermore, in lieu of such illegal, invalid or unenforceable provision there shall be added automatically as part of this Agreement a provision as similar in terms to such illegal, invalid or unenforceable provision as may be possible and be legal, valid and enforceable.

(j) Withholding. The Company shall be entitled to withhold from any amounts payable under this Agreement any federal, state, local or foreign withholding or other taxes or charges which the Company is required to withhold. The Company shall be entitled to rely on the advice of counsel if any questions as to the amount or requirement of withholding shall arise.

(k) Section 409A.

(i) *General.* The intent of the Parties is that the payments and benefits under this Agreement comply with or be exempt from Section 409A and, accordingly, to the maximum extent permitted, this Agreement shall be interpreted to be in compliance therewith.

(ii) *Separation from Service.* Notwithstanding anything in this Agreement to the contrary, any compensation or benefits payable under this Agreement that is designated under this Agreement as payable upon Executive's termination of employment shall be payable only upon Executive's "separation from service" with the Company within the meaning of Section 409A (a "Separation from Service") and, except as provided below, any such compensation or benefits described in Section shall not be paid, or, in the case of installments, shall not commence payment, until the sixtieth (60th) day following Executive's Separation from Service (the "First Payment Date"). Any installment payments that would have been made to Executive during the sixty (60) day period immediately following Executive's Separation from Service but for the preceding sentence shall be paid to Executive on the First Payment Date and the remaining payments shall be made as provided in this Agreement.

(iii) *Specified Employee.* Notwithstanding anything in this Agreement to the contrary, if Executive is deemed by the Company at the time of Executive's Separation from Service to be a "specified employee" for purposes of Section 409A, to the extent delayed commencement of any portion of the benefits to which Executive is entitled under this Agreement is required in order to avoid a prohibited distribution under Section 409A, such portion of Executive's benefits shall not be provided to Executive prior to the earlier of (i) the expiration of the six-month period measured from the date of Executive's Separation from Service with the Company or (ii) the date of Executive's death. Upon the first business day following the expiration of the applicable Section 409A period, all payments deferred pursuant to the preceding sentence shall be paid in a lump sum to Executive (or Executive's estate or beneficiaries), and any remaining payments due to Executive under this Agreement shall be paid as otherwise provided herein.

(iv) *Expense Reimbursements.* To the extent that any reimbursements under this Agreement are subject to Section 409A, any such reimbursements payable to Executive shall be paid to Executive no later than December 31 of the year following the year in which the expense was incurred. Executive will submit Executive's reimbursement request promptly following the date the expense is incurred, and the amount of expenses reimbursed in one year shall not affect the amount eligible for reimbursement in any subsequent year, other than medical expenses referred to in Section 105(b) of the Code. Executive's right to reimbursement under this Agreement will not be subject to liquidation or exchange for another benefit.

(v) *Installments.* Executive's right to receive any installment payments under this Agreement, including without limitation any continuation salary payments that are payable on Company payroll dates, shall be treated as a right to receive a series of separate payments and, accordingly, each such installment payment shall at all times be considered a separate and distinct payment as permitted under Section 409A. Except as otherwise permitted under Section 409A, no payment hereunder shall be accelerated or deferred unless such acceleration or deferral would not result in additional tax or interest pursuant to Section 409A.

10.Executive Acknowledgement.

Executive acknowledges that Executive has read and understands this Agreement, is fully aware of its legal effect, has not acted in reliance upon any representations or promises made by the Company other than those contained in writing herein, and has entered into this Agreement freely based on Executive's own judgment.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties have executed this Agreement on the date first written above.

LYRA THERAPEUTICS, INC.

By: /s/Maria Palasis
Name: Maria Palasis, Ph.D.
Title: Chief Executive Officer

EXECUTIVE

/s/ John Bishop
John Bishop, Ph.D.

[Signature Page to Employment Agreement]

EXHIBIT A

Separation Agreement and Release

This Separation Agreement and Release (this “Release”) is made by and between John Bishop (“Executive”) and Lyra Therapeutics, Inc. (the “Company”) (collectively referred to as the “Parties” or individually referred to as a “Party”). Capitalized terms used but not defined in this Release shall have the meanings set forth in the Employment Agreement (as defined below).

WHEREAS, the Parties have previously entered into that certain Employment Agreement, dated as of [____], 2023 (the “Employment Agreement”) and that certain Employee Proprietary Information and Inventions Assignment Agreement, dated as of [____], 2023 (the “Restrictive Covenant Agreement”); and

WHEREAS, in connection with Executive’s termination of employment with the Company or a subsidiary or affiliate of the Company effective [____, 20__], the Parties wish to resolve any and all disputes, claims, complaints, grievances, charges, actions, petitions and demands that Executive may have against the Company and any of the Releasees (as defined below), including, but not limited to, any and all claims arising out of or in any way related to Executive’s employment with or separation from the Company or its subsidiaries or affiliates but, for the avoidance of doubt, nothing herein will be deemed to release any rights or remedies in connection with Executive’s ownership of vested equity securities of the Company, vested benefits or Executive’s right to indemnification by the Company or any of its affiliates pursuant to contract or applicable law (collectively, the “Retained Claims”).

NOW, THEREFORE, in consideration of the severance payments and benefits described in Section 4 of the Employment Agreement, which, pursuant to the Employment Agreement, are conditioned on Executive’s execution and non-revocation of this Release, and in consideration of the mutual promises made herein, the Company and Executive hereby agree as follows:

1. Severance Payments and Benefits; Salary and Benefits. The Company agrees to provide Executive with the severance payments and benefits described in Section [4(b)][4(c)] of the Employment Agreement, payable at the times set forth in, and subject to the terms and conditions of, the Employment Agreement. In addition, to the extent not already paid, and subject to the terms and conditions of the Employment Agreement, the Company shall pay or provide to Executive all other payments or benefits described in Section 3(c) of the Employment Agreement, subject to and in accordance with the terms thereof. The severance payments and benefits described in Section [4(b)][4(c)] of the Employment Agreement shall be provided in lieu of any Garden Leave payment (as such term is used in the Restrictive Covenants Agreement) and Executive will not be eligible to receive any Garden Leave payment.

2. Release of Claims. Executive agrees that, other than with respect to the Retained Claims, the foregoing consideration represents settlement in full of all outstanding obligations owed to Executive by the Company, any of its direct or indirect subsidiaries and affiliates and any of its or their current and former officers, directors, equityholders, managers, employees, agents, investors, attorneys, shareholders, administrators, affiliates, benefit plans, plan administrators, insurers, trustees, divisions, subsidiaries, predecessor and successor corporations and assigns (collectively, the “Releasees”). Executive, on Executive’s own behalf and on behalf of any of Executive’s affiliated companies or entities and any of their respective heirs, family members, executors, agents and assigns, other than with respect to the Retained Claims, hereby and forever releases the Releasees from, and agrees not to sue concerning, or in any manner to institute, prosecute or pursue, any claim, complaint, charge, duty, obligation or cause of

action relating to any matters of any kind, whether presently known or unknown, suspected or unsuspected, that Executive may possess against any of the Releasees arising from any omissions, acts, facts or damages that have occurred up until and including the date Executive signs this Release, including, without limitation:

(a) any and all claims relating to or arising from Executive's employment or service relationship with the Company or any of its direct or indirect subsidiaries or affiliates and the termination of that relationship;

(b) any and all claims relating to, or arising from, Executive's right to purchase, or actual purchase of any shares of stock or other equity interests of the Company or any of its affiliates, including, without limitation, any claims for fraud, misrepresentation, breach of fiduciary duty, breach of duty under applicable state law and securities fraud under any state or federal law;

(c) any and all claims for wrongful discharge of employment; termination in violation of public policy; discrimination; harassment; retaliation; breach of contract, both express and implied; breach of covenant of good faith and fair dealing, both express and implied; promissory estoppel; negligent or intentional infliction of emotional distress; fraud; negligent or intentional misrepresentation; negligent or intentional interference with contract or prospective economic advantage; unfair business practices; defamation; libel; slander; negligence; personal injury; assault; battery; invasion of privacy; false imprisonment; conversion; and disability benefits;

(d) any and all claims for violation of any federal, state or municipal statute, including, but not limited to, Title VII of the Civil Rights Act of 1964; the Civil Rights Act of 1991; the Rehabilitation Act of 1973; the Americans with Disabilities Act of 1990; the Equal Pay Act; the Fair Labor Standards Act; the Fair Credit Reporting Act; the Age Discrimination in Employment Act of 1967; the Older Workers Benefit Protection Act; the Employee Retirement Income Security Act of 1974; the Worker Adjustment and Retraining Notification Act; the Family and Medical Leave Act; the Sarbanes-Oxley Act of 2002; the Massachusetts Fair Employment Practices Act, M.G.L. c. 151B, § 1 et seq.; the Massachusetts Civil Rights Act, M.G.L. c. 12, §§ IIIH and 111; the Massachusetts Equal Rights Act, M.G.L. c. 93, § 102 and M.G.L. c. 214, § 1C; the Massachusetts Labor and Industries Act, M.G.L. c. 149, § 1 et seq.; the Massachusetts Privacy Act, M.G.L. c. 214, § 1B; and the Massachusetts Maternity Leave Act, M.G.L. c. 49, § 105D;

(e) any and all claims for violation of the federal or any state constitution;

(f) any and all claims arising out of any other laws and regulations relating to employment or employment discrimination;

(g) any claim for any loss, cost, damage or expense arising out of any dispute over the non-withholding or other tax treatment of any of the proceeds received by Executive as a result of this Release;

(h) any and all claims arising out of the wage and hour and wage payments laws and regulations of the state or states in which Executive has provided service to the Company or any of its affiliates (including without limitation the Massachusetts Payment of Wages Law); and

(i) any and all claims for attorneys' fees and costs.

Executive agrees that the release set forth in this section shall be and remain in effect in all respects as a complete general release as to the matters released. This Release does not release claims that cannot be released as a matter of law, including, but not limited to, Executive's right to report possible violations of federal law or regulation to any governmental agency or entity in accordance with the provisions of and rules promulgated under Section 21F of the Securities Exchange Act of 1934 or Section 806 of the Sarbanes-Oxley Act of 2002, or any other whistleblower protection provisions of state or federal law or regulation and any right to receive an award for information provided thereunder, Executive's right to file a charge with or participate in a charge by the Equal Employment Opportunity Commission, or any other local, state or federal administrative body or government agency that is authorized to enforce or administer laws related to employment, against the Company for discrimination (with the understanding that Executive's release of claims herein bars Executive from recovering such monetary relief from the Company or any Releasee for any alleged discriminatory treatment), claims for unemployment compensation or any state disability insurance benefits pursuant to the terms of applicable state law, claims to continued participation in certain of the Company's group benefit plans pursuant to the terms and conditions of the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, claims to any benefit entitlements vested as the date of separation of Executive's employment, pursuant to written terms of any employee benefit plan of the Company or its affiliates and Executive's right under applicable law and any Retained Claims. This Release further does not release claims for breach of Section 3(c) or Section 4 of the Employment Agreement.

3. Acknowledgment of Waiver of Claims under ADEA. Executive understands and acknowledges that Executive is waiving and releasing any rights Executive may have under the Age Discrimination in Employment Act of 1967 ("ADEA"), and that this waiver and release is knowing and voluntary. Executive understands and agrees that this waiver and release does not apply to any rights or claims that may arise under the ADEA after the date Executive signs this Release. Executive understands and acknowledges that the consideration given for this waiver and release is in addition to anything of value to which Executive was already entitled. Executive further understands and acknowledges that Executive has been advised by this writing that: (a) Executive should consult with an attorney prior to executing this Release; (b) Executive has twenty-one (21) days within which to consider this Release, and the Parties agree that such time period to review this Release shall not be extended upon any material or immaterial changes to this Release; (c) Executive has seven (7) business days following Executive's execution of this Release to revoke this Release pursuant to written notice to the General Counsel of the Company; (d) this Release shall not be effective until after the revocation period has expired; and (e) nothing in this Release prevents or precludes Executive from challenging or seeking a determination in good faith of the validity of this waiver under the ADEA, nor does it impose any condition precedent, penalties or costs for doing so, unless specifically authorized by federal law. In the event Executive signs this Release and returns it to the Company in less than the twenty-one (21) day period identified above, Executive hereby acknowledges that Executive has freely and voluntarily chosen to waive the time period allotted for considering this Release.

4. Restrictive Covenants. Executive acknowledges that Executive remains bound by the Restrictive Covenants Agreement, which is incorporated by reference herein as if re-executed along with this Release.

5. Severability. In the event that any provision or any portion of any provision hereof or any surviving agreement made a part hereof becomes or is declared by a court of competent jurisdiction or

arbitrator to be illegal, unenforceable or void, this Release shall continue in full force and effect without said provision or portion of provision.

6. No Oral Modification. This Release may only be amended in a writing signed by Executive and a duly authorized officer of the Company.

7. Governing Law; Dispute Resolution. This Release shall be subject to the provisions of Sections 9(a), 9(c) and 9(h) of the Employment Agreement.

8. Effective Date. Executive understands that this Release shall become effective, irrevocable, and binding upon Executive on the day following the seventh (7th) business day from the date upon which Executive signs this Release, so long as Executive has not revoked it within the time period and in the manner specified in Section 3 above. Executive further understands that Executive will not be given any severance benefits under the Agreement unless this Release becomes effective pursuant to its terms.

9. Voluntary Execution of Agreement. Executive understands and agrees that Executive executed this Release voluntarily, without any duress or undue influence on the part or behalf of the Company or any third party, with the full intent of releasing all of Executive's claims against the Company and any of the other Releasees. Executive acknowledges that: (a) Executive has read this Release; (b) Executive has not relied upon any representations or statements made by the Company that are not specifically set forth in this Release; (c) Executive has been represented in the preparation, negotiation and execution of this Release by legal counsel of Executive's own choice or has elected not to retain legal counsel; (d) Executive understands the terms and consequences of this Release and of the releases it contains; and (e) Executive is fully aware of the legal and binding effect of this Release.

IN WITNESS WHEREOF, the Parties have executed this Release on the respective dates set forth below.

EXECUTIVE

Dated:

John Bishop, Ph.D.

LYRA THERAPEUTICS, INC.

Dated:

By: _____
Name: Maria Palasis, Ph.D.
Title: Chief Executive Officer

EXHIBIT B

Restrictive Covenant Agreement

[attached]

B-1

March 3, 2023

VIA EMAIL

Lyra Therapeutics, Inc.
480 Arsenal Way
Watertown, MA 02472
Email: lpham@lyratx.com

RE: 880 Winter Street, Waltham, MA 02451

To Whom It May Concern:

Boston

Los Angeles

New York

San Francisco

Washington, DC

Reference is made to that certain Lease dated May 31, 2022 (as amended to date, the "Lease") between BXP Waltham Woods LLC as landlord ("Landlord"), and Lyra Therapeutics, Inc. as tenant ("Tenant") for certain premises ("Premises") located within the building located at 880 Winter Street, Waltham, MA (the "Property"). All capitalized terms used in this letter (the "Notice") and not otherwise defined herein shall have the meanings ascribed to them in the Lease. Reference is also made to that certain letter dated as of the date hereof (the "GC Work Letter"), an unexecuted copy of which, excluding the exhibits of such letter, is attached hereto as Exhibit A.

Per Exhibit B-1 of the Lease, Landlord is currently performing Landlord's Work. Tenant is currently contemplating making changes to the Final Plans with respect to the square footage of lab space within the Premises (the "Contemplated Change").

By countersigning and returning this Notice and the GC Work Letter, Tenant hereby acknowledges that, if Landlord provides Landlord's Change Order Response to the Contemplated Change and Tenant approves such Change Proposal to Landlord, (i) to the extent the Contemplated Change requires, or Tenant desires, any governmental or regulatory validation or approvals, including FDA validation, of any or all of the Premises before Tenant utilizes such portion of the Premises for its intended purpose (the "Validations"), without limiting the Landlord's obligations under the Lease with regard to the conduct and completion of the Landlord's Work, the Landlord's Work shall not include any component of the process required for the Validations and failure to obtain the Validations, if required or desired, shall be considered a Tenant Delay to the extent such failure prohibits the Premises from being treated as having been substantially completed; (ii) Landlord's approval of the Contemplated Change shall not create any responsibility or liability on the part of Landlord for the Contemplated Change's completeness, sufficiency, design or compliance with Legal Requirements or the requirements for the Validations; (iii) upon the occurrence of a Service Interruption, the condition will be deemed completely corrected on the date that Landlord resolves the interruption or curtailment, suspension or stoppage of the subject Essential Service and bring such Essential Service back into compliance with the Base Building Specifications as set forth on the Exhibit C of the Lease, it being understood that in no instance (a) shall revalidation of the Validations be required for a Service Interruption to be deemed completely corrected by Landlord, or (b) shall the lack of revalidation of the Validations be a cause for the Tenant to deem any portion of the Premises as untenantable; (iv) Landlord makes no representation or warranty regarding the sufficiency of the base building systems with respect to any requirements for the Validations and Landlord shall have no obligation to modify any base building systems to assist Tenant's efforts or obligations to obtain or maintain the Validations, and, except as explicitly set forth in this Notice, Landlord shall not have any ongoing obligations to assist Tenant in maintaining its Validations; and (v) in no event shall Landlord ever be liable to Tenant for any indirect or consequential damages or loss of profits or loss of production or the like in connection with the Lease or the Validations.



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Notwithstanding anything to the contrary herein or in the Lease, Landlord hereby agrees that (i) Landlord understands and acknowledges that Tenant's use of the Premises for the manufacture of pharmaceutical drug products (alone or in combination with device products) shall, subject to Legal Requirements, be deemed part of the Permitted Uses under the Lease; *provided however* (a) Landlord makes no representations or warranties to Tenant regarding whether or not such manufacturing activities are permitted under the current zoning regulations and/or zoning restrictions covering the Property; and (b) any and all such manufacturing activities must be undertaken in compliance with the terms and conditions of the Lease; (ii) Landlord shall (a) authorize each vendor hired by Landlord for pest control services ("Pest Services") at the Property (the "Pest Control Provider") to provide Tenant with records related to such Pest Services as reasonably requested by Tenant; *provided, however*, while Landlord shall use commercially reasonable efforts to assist Tenant's efforts to obtain such records from the Pest Control Provider, Landlord shall have no liability to Tenant or any other person for the Pest Control Provider's failure to properly maintain or timely provide such records to Tenant, and (b) to the extent Tenant is unable to obtain records from any given Pest Control Provider (the "Unobtained Records"), use commercially reasonable efforts to promptly respond to Tenant's reasonable request for copies of any Unobtained Records; *provided, however*, without limiting Landlord's obligation to use commercially reasonable efforts to promptly respond to such Tenant requests, Landlord shall have no liability to Tenant or any other person for Landlord's failure to properly maintain or timely provide such records to Tenant; (iii) Tenant shall have the right, at its sole cost and expense, to contract with the Pest Control Provider to provide additional pest control services ("Additional Pest Services") supplementing the Pest Services provided by the Pest Control Provider; *provided however*, that (a) such Additional Pest Services shall be subject to Landlord's prior approval (which approval shall not be unreasonably withheld, conditioned or delayed), and (b) such Additional Pest Services shall only be in locations to which Tenant otherwise has access to pursuant to the Lease (for example, within the Premises or the common facilities to which Tenant has non-exclusive rights under Section 2.2 of the Lease); (iv) Landlord shall use commercially reasonable efforts to promptly respond to Tenant's reasonable request for information related to operation, maintenance, and calibration of the base building HVAC system; *provided, however*, without limiting Landlord's obligation to use commercially reasonable efforts to promptly respond to such Tenant request, Landlord shall have no liability to Tenant or any other person for Landlord's failure to properly maintain or timely provide such information to Tenant; and (v) consistent with Section 4.2 of the Lease, except in case of emergency repairs, Landlord shall give Tenant reasonable advance notice of (a) any contemplated interruption of any service or utility system serving the Premises and/or Property, or (b) any contemplated material changes to the services or utility systems serving the Premises and/or Property; *provided however*, with regard to both the matters set forth in subsection (v)(a) or (v)(b), Landlord will use commercially reasonable efforts to avoid unnecessary inconvenience to Tenant by reason thereof.



Boston
Properties

Prudential Center 800 Boylston
Street
Boston, MA 02199-8103

www.bostonproperties.com

Boston Properties, Inc.
(NYSE: BXP)

Exhibit A

[attached]

March 3, 2023

VIA EMAIL

Lyra Therapeutics, Inc.
480 Arsenal Way
Watertown, MA 02472
Email: lpham@lyratx.com

RE: 880 Winter Street, Waltham, MA 02451

To Whom It May Concern:

Reference is made to that certain Lease dated May 31, 2022 (as amended to date, the "Lease") between BXP Waltham Woods LLC as landlord ("Landlord"), and Lyra Therapeutics, Inc. as tenant ("Tenant") for certain premises located at 880 Winter Street, Waltham, MA ("Premises"). All capitalized terms used in this letter (the "Notice") and not otherwise defined herein shall have the meanings ascribed to them in the Lease. Reference is also made to that certain letter dated as of the date hereof (the "Validation Letter"), an unexecuted copy of which, excluding the exhibits of such letter, is attached hereto as Exhibit A.

Per Exhibit B-1 of the Lease, Landlord is currently performing Landlord's Work. Tenant is currently contemplating making changes to the Final Plans with respect to the square footage of lab space within the Premises (the "Contemplated Change").

If Landlord continues performing Landlord's Work prior to (i) Landlord providing Landlord's Change Order Response to the Contemplated Change and (ii) Tenant approving or withdrawing such Change Proposal, such continued performance will likely result in higher Change Order Costs and an increased length in Tenant Delay for the Contemplated Change.

By countersigning and returning this Notice and the Validation Letter to Landlord, Tenant hereby (i) authorizes and directs Landlord to stop performing Landlord's Work on the date that is five (5) business days after the date Tenant countersigns and returns this Notice to Landlord (such stoppage in the performance of Landlord's Work is hereinafter defined as the "Cessation of Landlord's Work") until the earliest of (a) the date Tenant approves or withdraws the Change Proposal contemplated herein, (b) the date Landlord receives written notice from Tenant to Landlord authorizing and directing Landlord to resume Landlord's Work, and (c) May 15, 2023 (it being understood and agreed that Landlord shall resume Landlord's Work upon the earliest of such dates to occur); (ii) acknowledges that any delay in completion of Landlord's Work resulting from the Cessation of Landlord's Work shall be a Tenant Delay; (iii) acknowledges that, during the Cessation of Landlord's Work, the personnel of the Contractor and its subcontractors shall stay mobilized such that they are still assigned to perform the Tenant Improvement Work and Tenant shall reimburse Landlord for the costs incurred by Landlord as a result of such mobilization during the Cessation of Landlord's Work pursuant to the change order attached hereto as Exhibit B (which shall be prorated to reflect the actual duration of the Cessation of Landlord's Work), and (iv) acknowledges that it shall reimburse Landlord for the



Boston Properties

out-of-pocket costs incurred by Landlord as a result of Landlord preparing Landlord's Change Order Response to the Contemplated Change, including the costs associated with developing the plans and specifications identifying the Contemplated Change. Unless and until Tenant countersigns and returns this letter and the Validation Letter to Landlord, the terms hereof shall not go into effect and Landlord shall continue performing Landlord's Work pursuant to the Lease.

If you have any questions or concerns, please do not hesitate to contact Phil Cregg at (781) 759- 9486.

Sincerely,

BXP WALTHAM WOODS LLC, a
Delaware limited liability company

By: BOSTON PROPERTIES
LIMITED PARTNERSHIP, a
Delaware limited partnership, its manager

By: BOSTON PROPERTIES, INC., a
Delaware corporation

By: /s/ Jonathan Randall
Name: Jonathan Randall
Title: SVP - Construction

Agreed to and accepted this
6th day of March 2023

LYRA THERAPEUTICS, INC.

By: /s/ Jason Cavalier
Name: Jason Cavalier
Title: CFO

Consent of Independent Registered Public Accounting Firm

Lyra Therapeutics, Inc.
Watertown, Massachusetts

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (333-237973), Form S-8 (333-263402), Form S-3 (333-264864), and Form S-3 (333-256020) of Lyra Therapeutics, Inc. of our report dated March 29, 2023 relating to the consolidated financial statements, which appears in this Annual Report on Form 10-K.

/s/ BDO USA, LLP

Boston, Massachusetts
March 29, 2023

**CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Maria Palasis, certify that:

1. I have reviewed this Annual Report on Form 10-K of Lyra 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 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
 5. The registrant's other certifying officer 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.
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Date: March 29, 2023

By: /s/ Maria Palasis, Ph.D.

Maria Palasis, Ph.D.
President and Chief Executive Officer
(Principal Executive Officer)

**CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Jason Cavalier, certify that:

1. I have reviewed this Annual Report on Form 10-K of Lyra 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 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
 5. The registrant's other certifying officer 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 29, 2023

By: /s/ Jason Cavalier
Jason Cavalier
Chief Financial Officer
(Principal Financial and Accounting Officer)

**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 on Form 10-K of Lyra Therapeutics, Inc. (the "Company") for the period ended December 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I 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) 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 result of operations of the Company.

Date: March 29, 2023

By: /s/ Maria Palasis, Ph.D.
Maria Palasis, Ph.D.
President and Chief Executive Officer
(Principal Executive Officer)

**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 on Form 10-K of Lyra Therapeutics, Inc. (the "Company") for the period ended December 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I 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) 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 result of operations of the Company.

Date: March 29, 2023

By: /s/ Jason Cavalier

Jason Cavalier

Chief Financial Officer

(Principal Financial and Accounting Officer)
